RPS MARINE CORPS Gazette

APRIL, 1947 30¢

THE FIGHT AT FONTE • LET THERE BE LIGHT

Devil Birds • Are Service Schools Up-to-date?

The Marines in the Pacific War • Supporting Fires

This Month's Cover

THERE WAS NEVER ANYTHING QUITE LIKE IT: some of the Marines' later operations stole a little of Tarawa's thunder, but the first news of the bloody fighting at Betio had a striking effect on the American public—a shocking effect, in truth, which for the first time brought full realization of the horrors of war against the fanatical, determined Japanese. Maj Houston Stiff's cover drawing depicts a small segment of the fierce action on Betio.

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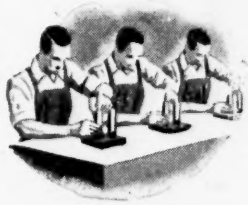

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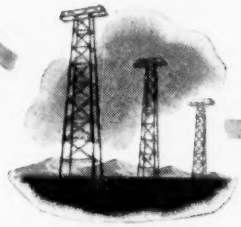

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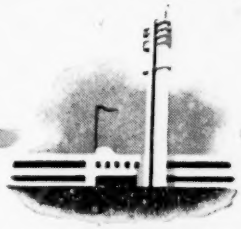

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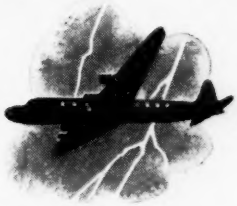

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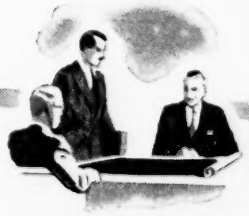

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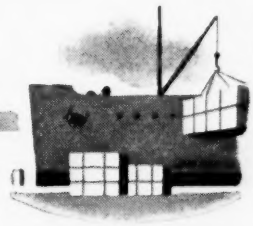

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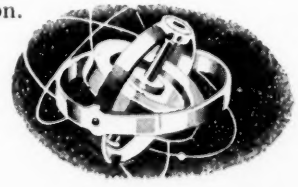

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PASSING IN REVIEW

BOOKS OF INTEREST TO MARINE READERS

The Little Picture . . .

SEMPER FIDELIS—USMC Combat Correspondents. 360 pages, illustrated, indexed. New York: William Sloane Associates. $3.50

Here are the marines, slightly larger than life-sized and almost as natural, as presented in an anthology of the best stories filed by those much publicized publicists, the Marine Corps combat correspondents. Capt Patrick O'Sheel and SSgt Gene Cook, themselves former combat correspondents, did the editing of this excellent collection which ranges from the briefest of anecdotes to magazine-length articles.

The book is divided into nine sections, the sub-titles of which indicate clearly enough the scope of the collection:

"In Battle"
"The Flyers' War"
"Casualty List"
"The Men"
"The Words They Spoke"
"The Nature of the Enemy"
"The Role of the Conqueror"
"The Islands and Their People"
"At Home Abroad"

This is the story of the Pacific war told in human terms. It is not a history written neatly and concisely in terms of divisions and regiments, operations and battles, casualty figures and tonnages; but it does give the character of the men who fought the war, the way they fought it, the way they lived it, the thoughts they had, the jokes they told, and the way they died. Undoubtedly some of the stories are exaggerated, some are apocryphal, many are familiar in slightly varied form, but this doesn't detract from the book; the view from the fox hole level was naturally distorted.

There is an excellently printed section of combat art and photographs, carefully edited and captioned to give in capsulated form a pictorial impression of what might be any beachhead operation.

The over 100 marines who contributed 71 major articles and 96 short items to this book have assigned their royalties to Navy Relief. The book, incidentally, has a publisher's price of $4.50, but is offered to marines and former marines for $3.50 if it is purchased through a Marine agency such as a post exchange or the GAZETTE Bookshop.

It is safe to predict that toastmasters and such will be tapping this book for material from now on. It is the sort of book that marines will be reading for the next twenty years, smiling with self-satisfaction and murmuring, "Were we really that good?" EHS

Tropical Nights . . .

TALES OF THE SOUTH PACIFIC—James A Michener. 326 pages. New York: MacMillan Co. $3.00

This is a book of loosely connected stories, all set in the South Pacific during the first year or so of World War II. Noumea, Efate, Espiritu, Tulagi, Guadalcanal, Bougainville—these and a number of other (some fictitious) locales are way-stations along the rather fantastic wanderings of the narrator, who is a naval officer with a vague but very special job on an admiral's staff. Three or four principal characters, in addition to the narrator, appear in various combinations in all the tales, thus lending a kind of continuity to the collection.

The characters of Mr Michener's book are infrequently exposed to combat; they are usually in rear areas, living under conditions which few marines will find familiar. There is an abundance of whiskey, for example, and no end of exotic half-caste girls. For another thing, the principals have very nebulous duty assignments: they travel about at will, on conveniently provided "hops" or even in their own "salvaged" TBF. In short, they seem to do pretty much as they damned please. Perhaps this is *not* an accurate picture—I didn't see much of the Navy during my tour in the South Pacific—but if it

Tales of the South Pacific

by James A. Michener

THESE tales are told by a Naval officer whose duties on an admiral's staff enable him to travel throughout many of the islands in the Pacific. He meets many people—servicemen and original inhabitants alike. It is their stories that are told in this collection. The author was a trouble shooter in aviation maintenance and later a historical officer for the New Guinea to Tahiti area.

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The War Reports

of

General George C. Marshall, General Henry H. Arnold, and Admiral Ernest J. King

HERE are the reports of the three top leaders of America's fighting forces. In all, there are nine reports, three by each officer, covering all phases of the war-time period from July 1939 through the final victories in all theaters.

illustrated

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GAZETTE BOOKSHOP

ORDER BLANK ON PAGE 62

is accurate, I, for one, am retroactively resentful.

There's a reserve navy lieutenant—Tony Fry, by name—who takes post as hero in several of the stories. He is presented as a very remarkable character, and indeed he is (except for his lack of military bearing, which is quite realistic): with his rank, he would have had to be remarkable in order to maintain his outsize liquor ration. Among other things, he marries a beautiful half-caste (all her sisters are beautiful, too) after plotting the demise of her husband, defies his superiors in all kinds of ways and gets away with it, and finally is killed, almost as an afterthought, in a landing operation which is one of the most unreal sequences in a generally improbable book.

A few marines appear in the book—one lieutenant makes quite a mess of an affair with a Tonkinese (beautiful, of course) girl—but the author is not at ease when he handles them. He does, however, give them the lion's share of such fighting and dying as there is to be done.

Mr Michener was a naval officer himself, during the war. He served in the South Pacific, first as an aviation maintenance trouble shooter (whatever *that* is), and later as a historical officer. According to the publisher's blurb on the dust jacket "he had written most of the manuscript of his book before he was appointed to the job which almost parallels the one held by the narrator of the book." Perhaps this is a clue; perhaps he wrote of these places and those times as he liked to think they were, rather than as he saw them to be. HS

The Big Picture . . .

THE WAR REPORTS of General George C. Marshall, General H. H. Arnold, and Admiral Ernest J. King. 801 pages, illustrated. New York: J. B. Lippincott Company. $7.00

The War Reports are the nine lengthy and detailed reports submitted to the Secretary of War by Gens Marshall and Arnold and to the Secretary of Navy by Adm King. Each officer presents three reports covering his particular activities during several phases of the war.

The Chief of Staff, Gen Marshall, writes the first report covering the period of July 1939 to June 1941. This one is of particular interest because it tells clearly and graphically of the extreme growing pains from which our national defense suffered during those early months of

the national emergency prior to our entry into the war. This report should be annual required reading for our legislators who tend to forget that defense structures are not built overnight.

Gen Marshall's second and third reports cover phases of the war, the home front, and all theaters. The third and final report covering the winning of the war in Europe and in the Pacific has been previously published and widely read. It is a masterpiece of clear expression and logical presentation of the facts, the reasons, and the causes behind the grand strategy evolved by our chiefs of staff. Gen Marshall's reports have a wider scope than the others; he covers the global war in broad terms. However, each report is highly readable, interesting, and packed with facts.

Gen Arnold's first report is dated January 1944. In this report he presents the background for the rise of American airpower and the American concepts of the strategic uses of air power as projected in the heavy bomber. He covers the details and problems of training and equipping a vast new air force, and the experience and lessons of this force's first combat operations.

The other two reports cover in some detail the air force's conduct of operations against Germany and Japan, the technique and results of our strategic bombing, the evolution of types of air-craft, personnel problems, and many other items of information not generally known to the Pacific veteran.

Gen Arnold's reports are the most informal; they are often dramatic, and always interesting. The reader can't help but sense the progressive spirit and self-confident ambition of this ever-expanding arm.

The last three reports, by Adm King, contain much of interest, considerable pertinent fact, but at the same time comparatively little new information for the well-read Marine officer who knows his Pacific War. For, as the bulk of the Navy was in the Pacific, most of Adm King's reports cover Pacific operations.

The first report on the Navy is dated March 1944 and covers the background for the growth of the American Navy; ship building, personnel, and facilities. Then the reports cover the combat operations in all theaters with considerable information on losses and damage and other correct facts concerning our naval actions that have previously been difficult to ascertain.

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TEXTILES

Adm King's reports should hereafter be a reference for anyone writing of the naval war.

These combined reports are in effect an interesting and accurate first draft for a history of the American part in World War II. They should be a priority reference for the military student and also stand as samples of excellent military writing for the discriminating military writer. JADjr

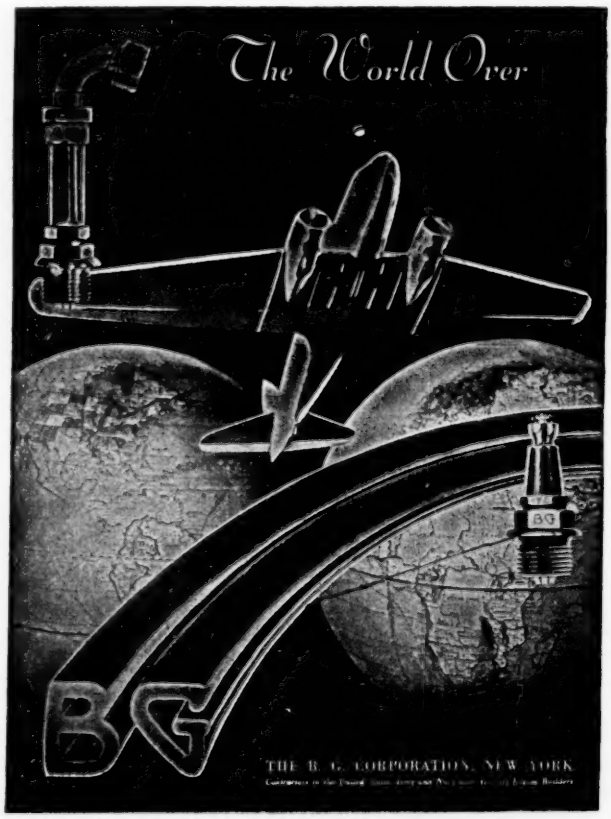
The Beginning . . .

PEARL HARBOR, The Story of the Secret War—George Morgenstern. 425 pages. New York: Devin-Adair Company. $3.00

For those who still hold an interest in the tragedy at Pearl Harbor, despite or because of the confused activities of a dozen different investigations and the piecemeal release of their findings, here is a well-organized, well-documented story of the 7 December 1941 attack and the events leading thereto. Primarily, the author is concerned with the responsibilities of the American leaders—what they knew, what they might have done, what they did. He undertakes to show that, because of intercepted Japanese code messages, there was little that was not known to our high executives about the pending Japanese attack, even to the objective and hour of the strike.

Mr Morgenstern has an axe to grind with almost everybody whose responsibilities were linked with the Pearl Harbor disaster. Explaining the "Secret War" subtitle, he says: "Pearl Harbor was the first action of the acknowledged war, and the last battle of a secret war upon which the administration had long since embarked. The secret war was waged against nations . . . chosen as enemies months before they became formal enemies by a declaration of war. It was waged also . . . against the American people, who were thought by their leaders to be laggard in embracing war."

George Morgenstern, long-time Chicago newspaperman, was a Marine Corps public information officer during World War II and is now a member of the CHICAGO TRIBUNE editorial staff. HS



THE MARINE CORPS
THE PROFESSIONAL MAGAZINE
FOR UNITED STATES MARINES

Gazette

APRIL 1947

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This Month and Next

SOMETHING IS MISSING from this month's issue—we tell you this before you try to find the April installment of Gen Holland M. Smith's *Amphibious Tactics.* Technical difficulties are responsible, but it's perhaps just as well since there is considerable duplication between the next chapters of *Amphibious Tactics and* this month's installment of *Marines in the Pacific War.*

Ever wake up screaming in the night? Maybe your trouble can be traced to that little pink sheet, N.M.C. 652-A.&I.—more familiarly known as the officers' fitness report. LTCOL EDWARD DRAKE is not satisfied with the present fitness report form, and next month he offers some very constructive suggestions for improvement of same.

Almost everybody has his own ideas about individual combat equipment, and most will agree that a lot of the stuff we lugged around in the last war was something less than perfect. MAJ PHILLIPS D. CARLETON gives his ideas next month in *A Case for Better Gear.*

So far, marines have been spared the experience of being on the receiving end of the VT fuze. LTCOL FREDERICK P. HENDERSON tells us how lucky we were in the May GAZETTE.

THE FIGHT AT FONTE

. . . using field glasses and maps in view of the

ALTHOUGH VIEWED AS AN EPIC STRUGGLE BY those who participated, the fight for Fonte Hill on Guam is not likely to be encountered in the history books of the future. During that fight, however, certain tactical truths were emphasized which are often forgotten by small unit commanders.

Sunset on the 24th of July, 1944, found the 3d Marine Division engaged for the fourth consecutive day in a bitter fight for a beachhead on Guam. The 9th Marines on the right and the 21st Marines in the center had captured the objectives forming the beachhead in their zones of action, but the 3d Marine Regiment on the left, after fighting fiercely from the very water's edge, had not yet overcome the fanatical resistance offered by the Japs on the high ground in the vicinity of Fonte Hill. Front line positions in the neighborhood of this terrain objective are shown in figure 1. Awaiting orders in division reserve was the 2d Battalion, 9th Marines.

By LtCol Robert E. Cushman
Maps by PFC John R. Beveridge

Late in the evening of the 24th, this reserve battalion was attached to the 3d Marine Regiment and received orders to pass through a battalion (the right battalion) of the 3d Marines, attack, and seize Fonte Hill. Time of attack was 0900, 25 July. Early in the morning, after a conference at the command post of the 3d Marines, the battalion commander started for the front lines with a small party to make all necessary arrangements with the battalion to be passed through, to reconnoiter, and to make plans for the attack. The battalion was to be moved forward by the executive officer to forward company assembly areas in rear of the front lines.

Let's go forward with this battalion commander and acquaint ourselves with the terrain through his eyes. Refer to figure 1. As we leave the battalion assembly area we follow a tortuous single file path up the side of the cliff to our front. Upon reaching the top, we move along the escarpment through jumbled coral rock thickly overgrown with jungle trees, shrubs, and vegetation restricting observation to a few yards until we reach a point behind the center of Hill A where the command post of the battalion we are to relieve is situated. The two battalion commanders make their way to the front lines through the saddle of Hill A. Although the hill itself and some of its forward slope are covered with jungle growth, from the top of the saddle a view can be obtained of the terrain over which the attack is to be made. The thick vegetation gives way to grass and a few scattered palm trees in the draw forward of the saddle. In the foreground the terrain slopes gently down to the Mt Tenjo road. Just across the road from Hill A is a small cliff some 10 to 20 feet high, in which the reconnaissance party can see a number of caves. From the top of the cliff, and from elsewhere along the far side of the road, the ground is open and slopes up to the top of Fonte. Fonte Hill itself is covered with jungle growth and we cannot see the depression set into its top like a soup bowl nor the abrupt dropping off of a small ridge just this side of the old penal farm, shown on the map as two buildings in the right of the zone of action. Part of the power line can be

Although initial supporting fire was heavy, 3d Marines encounter strong Jap resistance on the crest of Fonte Hill; thorough planning keynotes the successful attack

the enemy is an invitation to trouble . . .

seen where it runs up the hill and into the jungle on top. This first panoramic view reveals that, in essence, the attack will be made from one ridge, across a small valley, and up a rather long bare slope to the jungle-covered top of the objective ridge.

A quick analysis of the terrain indicates that the ground favors the enemy—he can lie hidden in caves and in the brush and fire at the marines as they cross the open ground. Desultory firing going on during the reconnaissance reveals that there is some enemy in the brush on Hill A just a few yards from the present front lines. An occasional shot comes from Fonte Hill to show that it, too, is occupied, but in general the enemy there seems to be lying in wait.

By means of this "reconnaissance in the present tense" we hope to acquaint the reader with exactly the information available to the attacking troops, no more and no less. Now let us revert to the past tense to show the plans made, the execution of the plans, and the reactions of the enemy which influenced the action.

The battalion commander first divided his problem into three parts; first, the passage of lines; second, the seizure of the wooded portion of Hill A; and third, the seizure of Fonte Hill. As a line of departure, a small trail was selected which was parallel to, but behind, the front lines. In this manner intermingling of the two battalions would be avoided and the attacking troops, by getting what might be called a running start, would make the actual passage of the two lines at high speed thus reducing to a minimum a period of great danger. The troops being relieved were to support the attack from their positions with all weapons until their fire was masked, which would be soon because of the dense brush. On each side of the saddle of Hill A, the ridge which ran down to Mt Tenjo road was covered with jungle, although the saddle itself and the draw leading from it down to the road were almost bare as previously described. This meant that two avenues of approach existed almost to the road, and that each of two assault companies could attack down one of these spurs to the edge of the cover, then, without being exposed to fire, pause for further orders leading to the capture of the main objective. The final solution to this third problem, the capture of Fonte itself, would depend upon the situation existing after the first objective was seized.

In accordance with this plan (see figure 2), Capt Lyle Q. Petersen's E Company was placed in assault on the right, Capt Louis H. Wilson's F Company on the left, and Maj Fraser E. West's G Company was to await orders in reserve. By

LtCol Robert E. Cushman's *byline has appeared over many* Gazette *articles, including the prize-winner of the 1944 article contest.*

Commissioned out of the Naval Academy in 1935, LtCol Cushman *served in China, at the New York World's Fair, and aboard the USS* Pennsylvania *where the war caught up with him at Pearl Harbor. He took the 2d Battalion, 9th Marines, through Bougainville, Guam, and Iwo Jima. In addition to his Navy Cross (awarded for his part in the Fonte battle), he holds the Legion of Merit and Bronze Star.*

this time, Maj William I. "Chuck" Glass, the battalion executive officer, had most of the battalion up the cliff. Company commanders were assembled, while the company executive officers moved the troops into their forward assembly positions along the previously mentioned trail. Command post personnel started their relief. The operation order was given orally by the battalion commander to the assembled company commanders and supporting weapons representatives from a vantage point in the open part of the saddle. Here a couple of close rifle shots brought home the point that using field glasses and spread out maps in view of the enemy is an invitation to trouble.

At the designated hour the attack jumped off. As the troops passed through the line of the relieved battalion, they immediately ran into resistance and fought slowly ahead through the brush. Before they had advanced more than a few yards (although even this put them out of sight), the relieved troops, their fire masked, began to assemble and prepare to move out. The two command posts were still in the same area, turnover there not yet quite completed. At this exact moment, the enemy reacted violently and came down with a heavy mortar barrage and intense machine gun fire. Shells exploded in the command post and among the assembling troops, who, needless to say, rapidly redeployed but not before suffering a number of wounded. Command could not be exercised from the command post, only from the observation post on Hill A.

If two simple statements from the field manual on the rifle battalion had been remembered, this lesson would not have had to be learned the hard way: "When the relief is made in daylight, the battalion passed through remains in position and continues fire support of the relieving battalion until its fires are masked and until the new attack has progressed far enough for the battalion relieved to be assembled and reorganized without undue casualties. Because a hostile bombardment, while the relief is in progress, may

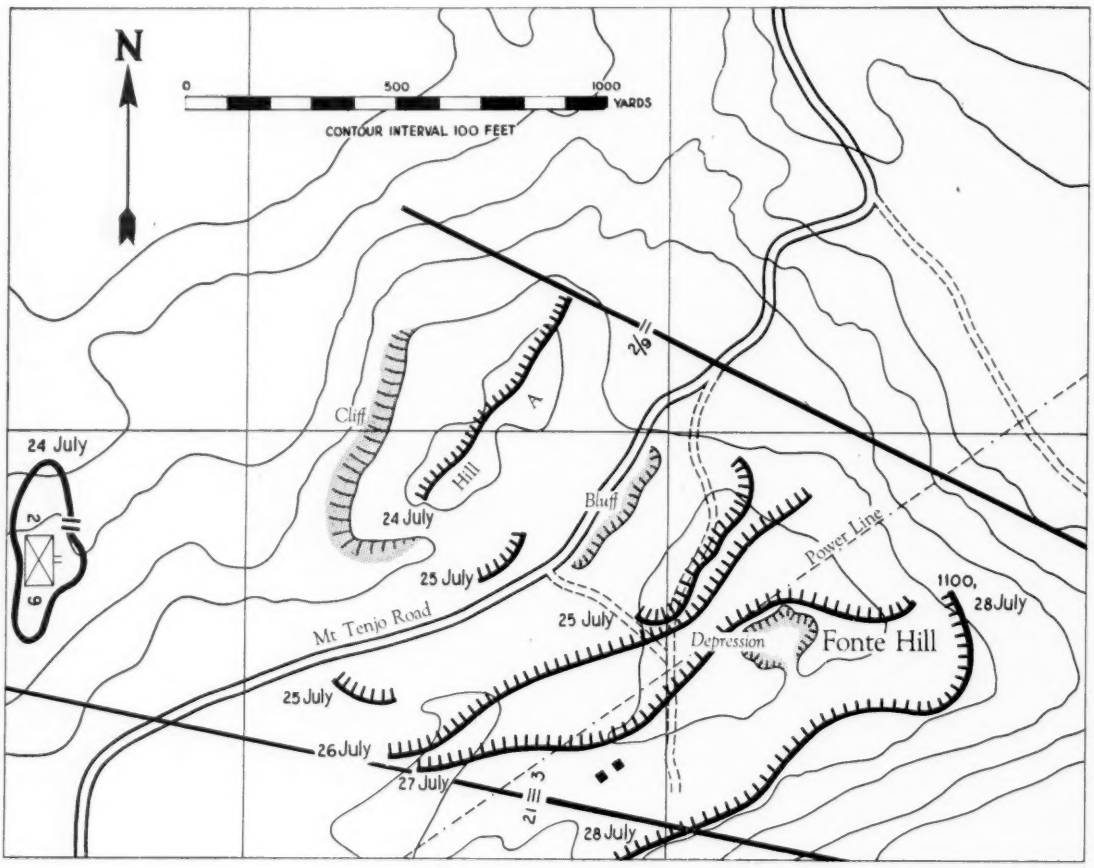


Figure 1. Successive evening positions of the front lines.

result in heavy casualties, the utmost precautions are taken to keep both battalions properly dispersed."

By early afternoon the Mt Tenjo road had been reached by the assault companies without undue difficulty, although the fighting through the brush had been a slow process. The difficult part of the problem now had to be solved: the advance up the bare slope of Fonte. Supporting fires were the only answer, and they would have to be followed closely—"leaned upon"—by the assault troops. Accordingly, naval gunfire was placed on the rear slopes of Fonte Hill, artillery was to take care of the top of the hill, mortars were given selected portions of the forward slope to take under fire, and rocket launchers were to fire into all visible caves across the road. Within each company, machine guns and light mortars were to provide close overhead and supporting fires during the attack. These different types of fires were to be delivered for varying amounts of time prior to the attack, and were to continue during the attack until stopped or shifted by the requests of the attacking company commanders. That portion of Fonte Hill within each zone of action was designated as the company objective. The line of departure was the road, which, although not in our possession, was under our control and only a few yards from the edge of the brush which we held.

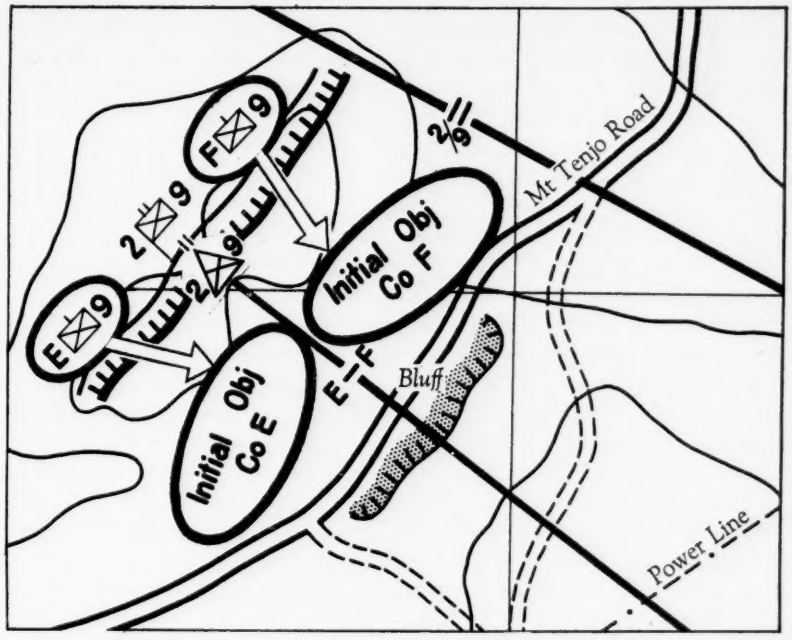


Figure 2. The attack on the morning of 25 July 1944.

The same companies remained in assault, and the boundary was left unchanged. (See figure 3.) At "K-hour," about 1430 (memory fails to recall the exact time), the troops left their positions and made a magnificent assault up the hill immediately under and behind a thunderous fire from every available weapon. Within minutes the military crest of the forward slope of Fonte Hill was reached by F Company and the left half of E Company; the near edge of the jungle atop Fonte was gained. The right half of E Company was split off from the rest of the assault by a knot of resistance hidden, Jap style, in the draw on the right. Capt Petersen, one of the bravest of many brave men that day, fell mortally wounded at this point. In general, however, casualties were light in reaching the positions just described. The troops had successfully crossed the bare slope. To every man in the battalion had been proved the truth of these statements from the field manual: "The final plan of attack must insure maximum teamwork between the attacking rifle elements and the supporting weapons. The plan of attack consists of two main parts, the plan of maneuver and the plan of supporting fires. The plan of supporting fires must be designed to support the plan of maneuver and give maximum assistance to the advance of the main attack."

What had weighed upon the battalion commander's mind as being the worst problem had been overcome by supporting fires. Now, however, a new predicament arose. The troops, who had gained the edge of the brush on Fonte Hill, found that the enemy had not been destroyed by the intense bombardment but had only been neutralized. They were therefore faced at close range by a well integrated and mutually supporting enemy position set into the jumbled coral rock and dense vegetation around the top of the hill. Supporting fires could not reach these targets because of their proximity to the marines or because they could not be definitely located.

To draw the troops back into the open and repeat the bombardment would be risky and of problematical value. Success thus became dependent upon small unit tactics, aggressiveness, and leadership. A grim struggle ensued and by nightfall the lines were as shown in figure 1. The principal gaps in the line are noticeable in the figure. To take care of this situation, a portion of the reserve company was placed on the left in such a position as to refuse that flank and cover the gap to the battalion on the left by fire. The remainder of the reserve was disposed west of the Mt Tenjo road but in such positions that the gaps between the front line units could be covered by fire. In other words, the gaps were blocked by occupying tactical localities in rear of them. See figure 4.

Since the Mt Tenjo road was now controlled by the marines throughout its northern extent, some reinforcements from the weapons company, 3d Marines, had made their way up the road and their weapons were disposed in depth to cover the most likely avenues of approach into the position. Some of the weapons company had been reorganized as provisional infantry and they took their place in the line between Company F and that portion of Company G on the left. Just as night fell some tanks arrived but were held in rear near the road because of darkness.

Unbeknownst to the marines, the enemy had moved up reserves and concealed them in the depression and behind the small bluff in the vicinity of the penal farm. The first part of the night saw a series of local counterattacks by the Japanese, increasing in severity as the night wore on. Ammunition was being expended at a high rate, but it still looked as though there was sufficient to last through the night. Supplies were laboriously carried up the cliff by carrying parties and placed in dumps near the battalion command post. The 3d Marines had supplies on trucks, ready to roll as soon as dawn came. They had been unable to reach the battalion during the day because of obstacles which the tanks were able to detour but not the trucks.

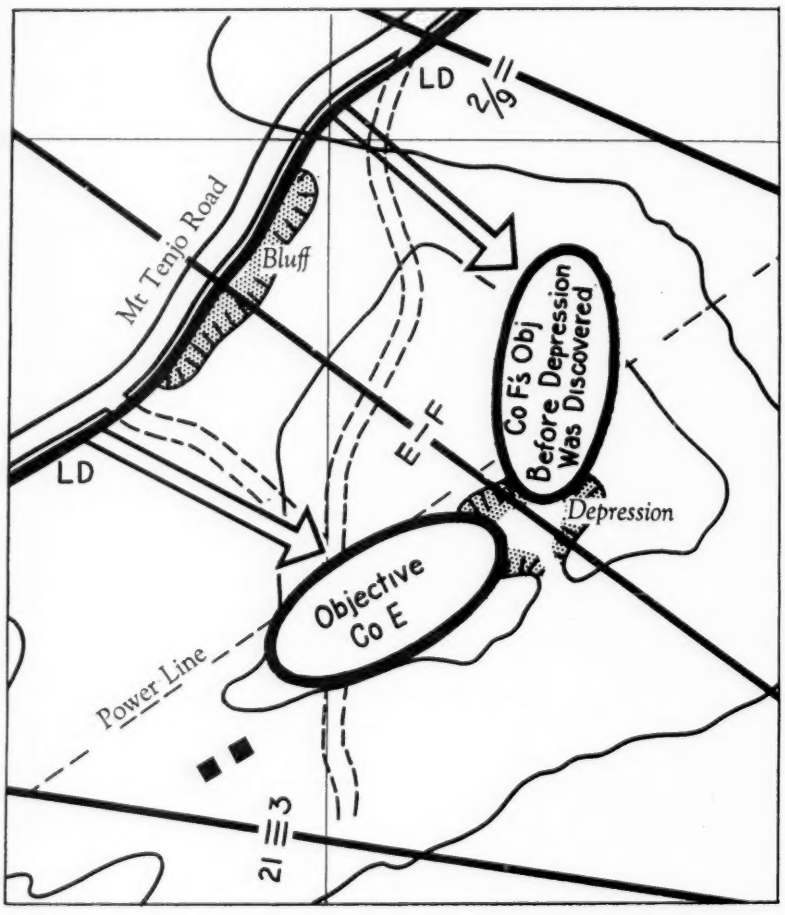


Figure 3. Continuation of the attack, 1430, 25 July 1944.

The storm broke suddenly, about four o'clock in the morning. About six battalions of the enemy launched a "do-or-die" counterattack preceded by intense mortar fire. Approximately a battalion of this force struck the positions of the marines on Fonte Hill, with other hostile units hitting the line to left and right in the zones of the 3d and 21st Marines. About two hours of fierce hand-to-hand combat ensued with the enemy coming in apparently never ending waves. Capt Wilson received the Medal of Honor for his night's work and Maj West got the Navy Cross.

Ammunition ran dan-

gerously low; but just as hope was about lost the first faint outline of dawn showed, the tanks were rushed up to the lines where their machine guns and high explosive helped stem the tide. Shortly thereafter ammunition was pushed to the troops by carrying party and by truck. The captured ground was still ours, although at heavy cost.

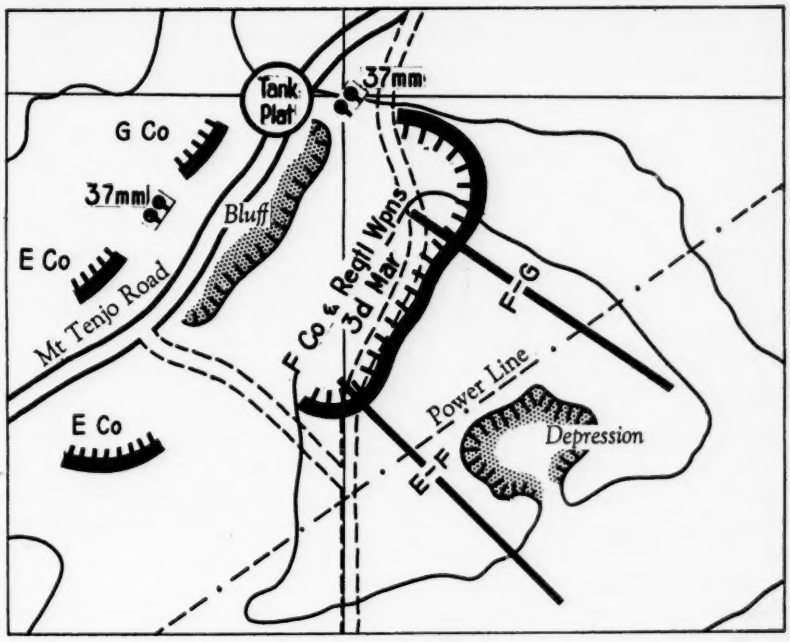


Figure 4. Location of units on the night of 25 July.

What lessons were learned, or proven, in this action? First, this defensive principle was emphasized: "A battle position comprises a zone of resistance. Some positions of the front may remain unoccupied yet be held effectively by a combination of fire power and obstacles." In this battle, even though the battalion was "sticking out in the open," the defense maintained its integrity by occupying the tactical localities, covering the gaps by fire, and providing depth to the position as a whole.

Second, the importance of tenacity in the defense was shown in accordance with this doctrine: "Our defensive doctrine contemplates the organization of a battle position to be *held at all costs.*"

Third, the validity of this statement from the field manual was demonstrated: "Supply is a responsibility of command which cannot be delegated. The battalion commander is responsible for the initial supply and the replenishment of all classes of supply to his battalion. The battalion commander must use the means at his disposal to effect distribution." In this case, even though it ran contrary to the so-called rules of jungle warfare which had guided the fighting in the Pacific up to that time, the battalion commander should have pushed ammunition up to the troops *during the night* by making use of carrying parties.

The 26th, the second day of the attack, was spent in local attacks to close the gaps, in reorganizing (quite heavy casualties had been sustained in repelling the Jap counterattack), and in moving up supplies and equipment. Lt Paul McLellan, who had relieved the wounded Maj West, was in turn wounded and relieved by Capt Francis L. "Dutch" Fagan. Capt Maynard W. Schmidt now commanded E Company.

During the day an infiltrating party of Japs, armed with mortars and machine guns, attacked the command post. Maj Glass, Capt Laurence W. Cracroft, and Capt Luther S. Kjos, among others, distinguished themselves in the defense. Lt Paul Smith, now editor of the San Francisco Chronicle, then commanding a platoon of the division reserve, attacked and killed this enemy group. Lt Smith later held a portion of the front line, tying in with F company. For his valor during this period he was awarded the Silver Star. By nightfall, the line shown in figure 1 had been won. It was held that night without too much difficulty.

On the 27th, the battalion launched a coordinated attack which was characterized by fierce small unit fighting in the dense growth, and by noon the line shown on figure 1 had been reached. Just as the attack was about to be resumed along about 1300, a screaming horde of Japs some 150 strong came pouring over the top of the small bluff between the marines and the concrete buildings of the penal farm in a last wild counterattack. Capt Fagan and his men bore the brunt of this charge and fought bravely. For his heroism "Dutch" Fagan re-

ceived the first of two Navy Crosses he was to win before his death on Iwo Jima.

A platoon of the reserve was rushed into a blocking position and after an hour or two of fighting the threat was stopped. This counter-attack, however, had disorganized those units involved in the fight. This posed a problem, for higher headquarters wanted Fonte Hill in our possession at the earliest possible time. On the other hand, it was approaching four o'clock in the afternoon. A detailed plan would have to be made in order to continue the attack and do it properly, for a queer twist of the terrain had been brought to light during the day's attack. This was the depression on top of the hill. This pit was circular with very steep sides honeycombed with caves all round. This meant that any troops attempting to work their way down into the pit would come under fire from four sides. To solve the plan of maneuver and plan of fires required for taking this would take time. The essence of the problem was this: every minute the enemy maintained his hold on the hill was in effect a victory for him; on the other hand, every casualty incurred because troops were committed without a sound plan was also a victory for the enemy. The battalion commander put the problem to higher headquarters in this light and permission was granted to delay the attack until dawn the next day, 28 July.

The remaining hours of daylight were spent in furious preparations for the attack. Special demolitions loads were made up; flamethrowers were fueled; and extra rocket launchers were brought up. Intensive reconnaissance was conducted. This revealed one spot where a tank could be placed to fire into the pit; firing positions for machine guns and rocket launchers were located on the north and west sides of the pit; and still another place on the north side was found for the descent of the troops. Finally orders were issued and all was in readiness for the morrow.

Early the next morning from two sides a criss-cross of bazooka, machine gun, and tank fire pin-pointed every cave in the pit with a tremendous volume of fire. Under cover of this a small picked assault group rapidly worked their way down into the pit and systematically cleaned out every cave and emplacement. Without suffering a Marine casualty, some 35 to 50 Japs were killed. If the participants in this small action had not been convinced before, they were now: There is no substitute for thorough, prior planning.

WITH THE SEIZURE of Fonte Hill the capture of the beachhead was completed. In the larger picture, the defeat of the large counterattack on the 26th by the many battalions of the 3d Division who fought bravely throughout that bloody night finished the Jap on Guam. Pursuit by the entire III Amphibious Corps followed until the sea in the northeast was reached and the campaign concluded. What made the fight for Fonte important was the fact that this pursuit could not take place until it was seized. To emphasize again the heroism of the men of the battalion it is fitting to conclude by remarking that their valor during this fight won the Presidential Unit Citation for the battalion as an attached part of the 3d Marines. US MC

To the Last Man

He was an extra-small Japanese soldier. His uniform hung limp like a scare crow's trappings. A marine on Orote Peninsula asked him why he surrendered.

"My commanding officer told us to fight to the last man," the prisoner answered.

"Well?" queried the marine.

A look of wounded innocence spread over the Jap's face as he declared, "*I* was the last man!"

—MTSgt Murray Marder
page 227, *Semper Fidelis*

Base Plate McGurk Expounds . . .

Let There Be Light

THE THREE OF US, JOHNNY JOHNSON, RUSS Fields, and I were having our ten o'clock cup of coffee in B Company's office. Johnny and I were cheerfully exchanging notes on the military demise of "Flare" Blair as evidenced by the change sheet just received.

"Just what was wrong with this character," asked Russ, who served with a different outfit overseas, "that makes you so glad to see him a civilian again?"

"In all fairness, Russ," Johnny answered, "Blair was an excellent officer except for one thing. When it came to illumination he was always way off base. I'll tell you an experience that I had with him that put him on my list for keeps.

"We were moving up the coast of Saipan towards Garapan against practically no opposition. Our battalion was operating about halfway between the coast and the high hills and ridges that run along the center of the island. Consequently, the Nips on the high ground to our right were looking down our necks and since the ground we were working was generally open and devoid of cover, we made excellent targets.

"Blair had the company on my left and during the attack that day he really handled his outfit quite well. When we dug in that night, I had a short conference with him about tying in and I was impressed with his apparent ability. He was a quick, decisive sort of a guy and I went back to my command post feeling pretty happy about his being on my left.

"By that time it was dark and a night patrol of mine had just cleared my lines when he turned on the lights. Well, of course, I figured he had probably had some sort of infiltration attempt in his sector although it seemed rather early for that kind of stuff to start. Anyway, outside of worrying a little about my patrol, I didn't think too much about it because I thought he would knock it off in ten or fifteen minutes.

"Brother, was I ever mistaken! He kept it up and kept it up until I started to wonder what in the hell was going on. The way he was illuminating with both star shells and his 60mm mortars it looked like he must be receiving a strong attack. On the other hand, not a shot had been fired in his sector. To make matters worse, my patrol sent word in that they were only one hundred yards in front of our lines and if we didn't stop that illumination they would still be there in the morning.

"I called battalion and told them about the patrol. I also told them that there had been no enemy activity in my sector of any sort. The old man said that he would see what he could do about Blair and that he was surprised we hadn't received some artillery and mortar fire. When I asked him why he particularly expected the Nips to open up on us at this time, he just cut me off by saying he would explain later.

He must have been psychic because within five minutes the stuff really started falling. Furthermore, it was accurate and I thought it would never stop. Blair kept up his damn illuminating and we kept catching both mortar and artillery fire right on our lines.

"Evidently the old man raised plenty of hell because within fifteen minutes after the big stuff started hitting us Blair knocked off all illumination. By that time, the Nips had our range and just kept on pouring the HE right on top of us. Frankly, I didn't think that I would have a company left by daylight.

Illuminating the battlefield at night often proves embarrassing . . . and dangerous

"When the Nips continued to fire on us, the old man called and ordered me to move my lines approximately one hundred yards forward. You can believe me that it didn't take long for us to move! But we were no sooner in our new positions than the enemy started probing all along our line. Lord! what a night. I had thirty casualties including two rifle platoon leaders from the mortar and artillery fire. The infiltration attempts by the Nips were bolder and more numerous than usual and I was sure we would get a *Banzai* before morning. However, I was fortunately mistaken in this.

"My patrol just barely made it back to the lines before daybreak and were as jumpy as rabbits. They said that the whole area was alive with enemy patrols although there was no indication of a concentration of troops."

Johnny stopped and refilled his cup. You could tell by the look on his face that he was reliving that night and that he felt pretty put out about it.

"Well," Johnny continued after a minute, "a few days later we reached the coast in our sector and went into division reserve. The old man called us together and gave us a short but definite SOP on illumination.

" 'When we stop for the night,' he said, 'you will be furnished with either incendiary grenades or, when and if they become available, illuminating grenades. These will be issued to the outposts and to all squads to be used if they are fairly certain that an infiltration is being attempted in their sector. Furthermore, these grenades will be used with trip wires all along our fronts. The men must exercise the same caution in using these grenades as they do in firing their weapons at night. The fragmentation grenade is still best for use against suspicious noises or movement. However, if the noise or movement is definitely an enemy infiltration group, light them up with a grenade and shoot them. This procedure will localize the illumination. Besides that, any grenades that are tripped will show exactly where the enemy is trying to get through.

" 'Now get this—60mm mortar illumination will *not* be used except in case of an enemy attack. Star shells will not be used except on my specific orders. Johnson here had his company shot up the other night because the company on his left didn't know how to illuminate. Blair said the reason he did it was because his men were jumpy and it helped their morale since they expected some infiltration attempts during the night. Well, those hot fragments certainly didn't help their morale or their health when the enemy opened up with artillery and mortars. When Blair turned on the lights it helped the enemy more than it did us because it showed him exactly where our lines were located. Naturally it didn't take them long to register since we provided the light. Also their patrols knew exactly where we were and could move more boldly. Any prisoner we've taken will tell you that when a 60mm illuminating shell or a star shell "pops" they simply hit the deck and wait for it to burn out. It takes a second for our eyes to become accustomed to the light and that gives them additional time to hit the deck so that we can't spot them. On the other hand, a grenade gives no warning to speak of and the enemy usually is so surprised they freeze standing where they are. Of course, if the enemy is assaulting us in force, they can't all hide nor can they hit the deck every time we illuminate. Furthermore, they can't drop artillery and mortar fire on us for fear of hitting their own troops *if*, and it's a big "if," we wait until the enemy reaches our FPL fires before we illuminate. So, as I said, during an enemy attack we will illuminate our entire sector and keep it illuminated until they have been repulsed.' "

For the first time I noticed Russ had been jotting down some notes. Although his voice was calm his eyes were excited. "How did it work, Johnny?" he asked. "Did you have a chance to try it?"

"It worked like a charm," Johnny replied enthusiastically. "We used that system during the mopping-up on Saipan and later when we went on over to Tinian. We put those grenades on stakes with strings leading back to our holes. We placed trip lines along our machine gun FPLs. We kept a supply just to heave. Every path or road to our front would have trip lines across them. Every time a grenade would go off, the enemy would either be standing there with their mouths open or running around screaming from burns. Yes, and their mortars and artillery could never register on us the way they did that night on Saipan.

"I've heard of a lot of outfits that used the same system and they all swear by it. I've also heard of some outfits that just forbid illumination except when receiving a strong attack. What-

Battalion Illumination

THE FOLLOWING ILLUMINATING AMMUNITION is organic with the infantry battalion:

	Burning Time	*Candle Power*
Illuminating Hand Grenade, Mk1	25 seconds	50,000
Trip Flare, M48	20 seconds	110,000
Trip Flare, M49	60 seconds	40,000
60mm Mortar Illuminating Shell, M83A1 with fixed time fuze, M65A1	25 seconds	110,000 to 145,000
81mm Mortar Illuminating Shell, M301(T18) with with fixed time fuze, M84	60 seconds	275,000

ever system is used, we'll agree that it is fatal to have any Flare Blairs around. Why that dope would use Very pistols, signal projectors, or anything else just to have light. In fact, I'll bet he'd want to build bonfires if he ran out of everything else."

"I'll tell you something we used," Russ said. "Whenever we had time to set it up, we used a flame *fougasse*. We rigged the trip wire so that anyone who hit it would be between the flame and our lines. Naturally, this would silhouette them and, just like your grenade deal, they would be so surprised they wouldn't take cover in time. This fougasse we used primarily for localized illumination was a small one made out of a five gallon expeditionary can of oil with a charge and a thermite grenade to set it off and ignite it. Besides a trip wire, we also ran another wire to our lines so that we could set it off ourselves.

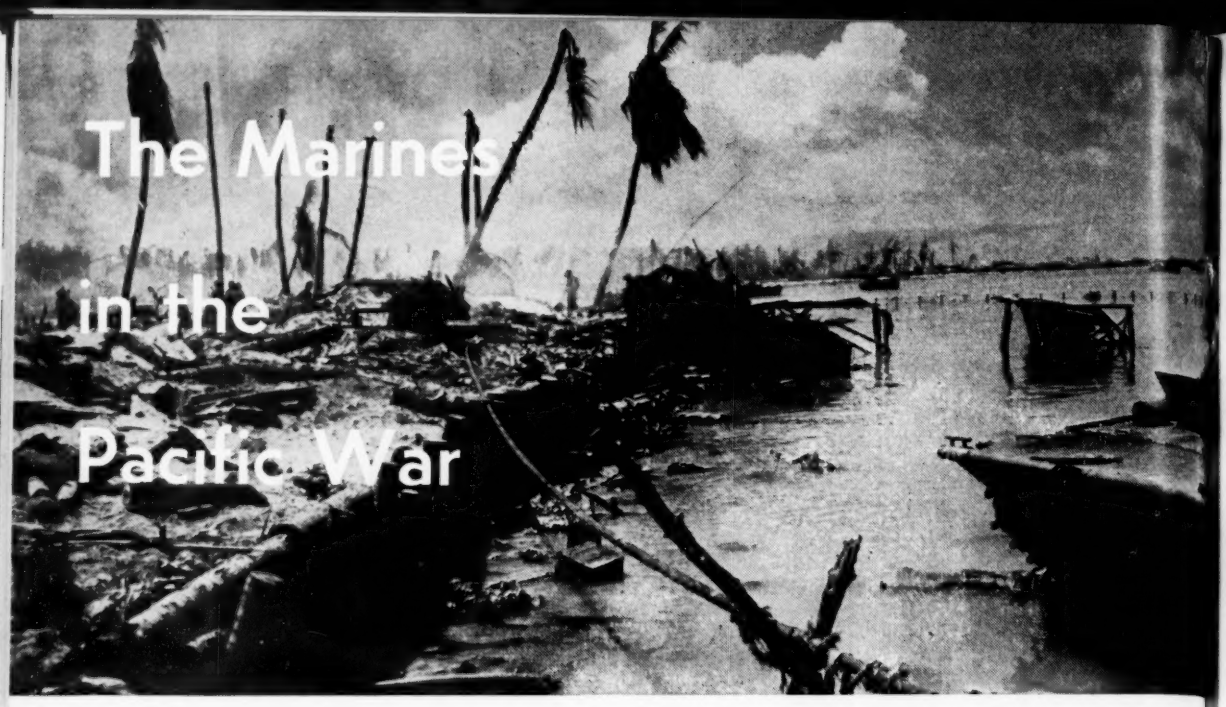
"If the situation permitted, we also used a larger fougasse. Sometimes we could find some fifty gallon drums in an enemy dump or the S-4 could secure some for us. By bumming an 81mm white phosphorus shell or an M-18 nonparachute type ground signal flare as an igniter and nine or ten blocks of TNT primed with primacord, we could shoot that flame all over hell's half acre. Of course, when we used these big babies we rigged the trip wire to run along the same line the flame was set to travel. In this way we had both an illuminating and a casualty producing agent. However, even in this case we ran another wire to our lines so we could set it off ourselves."

Johnny nodded in agreement and remarked, "I never used a fougasse, but the idea always fascinated me. Think of the psychological effect that sudden explosion and flame must have on anyone trying to get in your position. Even if they were hundreds of yards away the possibility that they might set one off would certainly prey on their minds."

Of course we all agreed with that, and considered ourselves lucky that the Nips hadn't thought of such a trick.

I had to tear myself away, then, since there was a certain report that Battalion had been screaming for since 0800, but as I walked back to my company area I was doing some heavy thinking about this business of illumination. I had a slight feeling of guilt, because, come to think about it, maybe I'd gone a little overboard on illumination myself at times. Never again, though.

Surprising what you can pick up in those bull sessions, isn't it? US MC



Chapter 10
TARAWA: THE TOUGH NUT

By Fletcher Pratt
Maps by PFC John R. Beveridge

ON 4 SEPTEMBER 1943 THERE WAS A CONference at Pearl Harbor. Present: Adm King, Adm Nimitz and his staff, Adm Spruance and his, MajGen Holland M. Smith of the Marines and part of his. The offensive in the Solomons had been pushed to the outskirts of Rabaul, MacArthur's in New Guinea was already in the phase of swinging westward toward the Philippines and he had adequate force for that enterprise. Attu and Kiska had been recovered, but weather, distance from our bases, and nearness to the Japanese, left no future to an offensive along that line. The spine of the submarine war had been broken, the naval forces in Europe were adequate to their present task.

On the other hand the fleet that had once been down to a single carrier now counted six of the largest size plus five of the new light carriers and eight escort carriers. There were six of the new fast battleships and as many of the older free for Pacific operations. We had a surplus of unemployed force and the joint chiefs had decided to use it in an offensive straight across the clouds of Central Pacific islands against the heart of Japan. The Marines would spearhead the attack.

Thus, Adm Nimitz explained why they had met. He went on to announce that Spruance would have general command, with designation as head of a new organization, 5th Fleet. There would be two simultaneous attacks in this new move, one under Richmond Kelly Turner against Nauru, one under RearAdm Harry Hill against Tarawa in the Gilberts, with a small offshoot of the latter to take Apamama, also in the Gilberts. Gen Smith—who bore the picturesque biname of "Howling Mad" for no other reason except that it fitted his initials—was to be in overall command of operations ashore, his organization being called the V Amphibious Corps. This Corps contained two divisions, one of them the Army 27th Division of the New York National Guard under the Army Gen Smith, Ralph C., the other the battle-tested 2d Marine Division. The infantry regiments of this latter outfit were the 2d, 6th, and 8th; we have met them all in the Solomons where they saw a good deal of fighting. They ranked as veteran, formidable organizations, now thoroughly rested. The division commander was still another MajGen Smith, Julian C., a rather strange personality for a Marine officer, at least outwardly, self-effacing, soft voice, and with a dreamy eye; but his brain ticked right along and there was nothing wrong with his fighting heart. He was patient and stubborn. They gave him Edson of Guadalcanal as a chief of staff.

It is to be noted that this was America's first

Part VIII: Failure to maintain adequate communications between the invading troops and the fleet offshore almost results in disaster for the marines on Tarawa. Finding fewer Japs than anticipated, Army forces take Makin without difficulty

offensive across oceanic areas against positions really held in force, with the possibility involved that the Japanese fleet would come out for a fight while it was on. The naval commander who has to do battle with a convoy under his wing, even if the troops had already been landed, is like a boxer trying to operate with an iron ball chained to his foot. Everyone at the conference knew it. There was also the virtual certainty implicit in the Japanese strategic arrangements, that they would stage vast quantities of planes through the Marianas and Carolines to their numerous fields in the Marshalls, and from those points let our shipping have it hard. Even among the Solomons, where the supply runs were short and transports could clear the unloading areas at dark, putting to sea under strong shore-based air power, we had suffered considerable losses under such attacks. In the Gilberts none of the favorable factors would be present. Moreover, the operations ashore promised to be tough in the extreme. The Japs had long been in possession of these islands and if Munda were any criterion, would have fortified them extensively and intensively. The atolls were flat, never more than ten feet above water; there would be no accidents of ground or jungle cover to enable our men to get close to these fortifications along routes defiladed against fire. Nor would there be friendly artillery, except afloat—to sum up, this was the first truly amphibious operation.

THE MARINES, of course, had a background of doctrine for such operations which they had accumulated through the years. Gen Holland Smith and his staff possessed a considerable amount of training experience, having been in charge of preconditioning the troops for that attack on Kiska which was never made because the Japs got out. Novel as the problem was in practice, the V 'Phib Corps staff began gravely to doubt the plan as soon as they sat down in front of the intelligence reports and photos on Nauru. The place is not an atoll but a monolith of limestone with cliffs nearly 100 feet high behind narrow beaches; surrounded at a considerable distance by a coral reef which has few penetrations. The cliffs were honeycombed with caves which now housed gun positions; they would almost certainly have every entrance through the reef calibrated to the inch and it would take a direct hit on a pinpoint target to put one of those guns out of business, a thing very difficult to obtain from the distance at which the reef would hold our ships.

The Corps staff took the matter up with Adm Spruance and Spruance took it up with Nimitz. "What would you substitute for Nauru as a point of attack," asked the latter, and Spruance unhesitatingly said; "Makin," pointing out that if that place were taken in addition to Tarawa we would have two mutually supporting airfields and Nauru would lose significance, because it could be kept ineffective by shuttle-bombing from planes running between the new Gilbert fields and the Solomons.

Makin it was then, and assigned to it Adm Turner's force afloat and the 27th Division. This force organized at Pearl Harbor, the 27th having been on garrison duty in the outer islands of Hawaii since the beginning of the war. The fleet in immediate support was formed round the old battleships *Pennsylvania, Idaho, New Mexico,* and *Mississippi* with four heavy cruisers and RearAdm Mullinix' division of three escort carriers. Cruising free to hit the Japanese fields in the southern Marshalls and to intercept the expected air attacks from that region, would be two groups of carriers under Adm Radford and Adm Pownall, one of a big carrier and two lights (*Enterprise, Belleau Wood, Monterey*), the other of a big carrier and a single light (*Yorktown, Cowpens*). There were supposed not to be many more than 600 Japs on Butaritari, the main island, where Carlson's Raiders had gone ashore the previous year.

TARAWA loomed as a much tougher enterprise; it would be handled by the 2d Marine Division, coming up from New Zealand. For immediate support of this job there would be the old battleships *Tennessee, Colorado,* and *Maryland;* heavy cruisers *Portland* and *Indianapolis;* light cruisers *Birmingham, Mobile, Santa Fe;* 21 destroyers and five escort carriers under Adm

Ragsdale. Cruising off to furnish air interception and support ashore as needed would be RearAdm Montgomery's group of two big carriers and of a light (*Essex, Bunker Hill, Independence*). Moving everywhere needed in support of the carriers, ready to tackle the Japanese fleet if it poked its nose out of Truk, Willis Augustus Lee and the six fast battleships with a retinue of light cruisers and destroyers. Holland Smith and the Corps command to be aboard *Pennsylvania* in the northern group; Spruance in *Indianapolis*.

THE KEY island of Tarawa is Betio at the southwestern angle of the delta-shaped atoll. The island itself is a very elongated triangle, its point toward the east and the other islands that form the delta's base. The whole center of Betio is occupied by a big airfield. A long pier jutted north into the lagoon from opposite the center of this field. The air photos of the place had been carefully taken and were extremely good (compare Guadalcanal); LtCol Thomas J. Colley, Division G-2, estimated that the place was held by some 2,742 men, undoubtedly belonging to one of the special naval landing forces. They were provided with so many guns that the whole tiny island, about 4,000 yards long and 800 wide at its widest point, bristled with them like the back of a fretful porcupine. In addition to 8 heavy coast defense guns of uncertain caliber, the preliminary estimate of the situation indicated 8 4.7s, 11 80mm, 14 40mm, 4 25mm, 69 heavy machine guns, 45 pillbox-emplaced machine guns, with 37 emplacements that could be used by the Japanese mobile artillery, of quantity unknown.

The question of taking one of the adjacent, less heavily fortified islands first and using it as an emplacement from which to beat down these defenses by artillery fire came up at the conference.* Navy said no. It would take a day at least to capture the subsidiary island and get the guns in; another two would be required for the bombardment plus whatever time would be needed for capturing Betio itself. All during this time the transports must lie off the island, loaded with marines. With a chart and a pair of dividers it could be calculated that this would allow plenty of time for the Japs to stage their air reserve through Nauru and the Marshalls for those air attacks that were almost bound to prove costly, not to mention submarines. The man aboard a transport is the world's most helpless soldier. Not only this; there was more than a fair possibility that by the third or fourth day, when the island-to-island advance became possible, our carriers and gunnery ships alike would be called away to do battle, which would mean an attack without gunnery support from the sea.

No! The time factor demanded that Betio be attacked directly and in the first rush. The obvious method of such an attack was a landing on a broad front along the south beach, coming up out of the sea, but air photos showed the Japs had thought of that. Their heaviest concentration of guns and pillboxes was along this shore and they had fringed the reef off the coast with underwater obstacles of the most difficult type, heavy concrete pyramids with horns and probably mines, wired together. There was constant bad surf on this beach with the whole sweep of the Pacific behind it; only five days of the month offered landing conditions even if there were no obstacles. The narrow west beach held some of the same obstacles, offered little room for maneuver and above the water's edge was studded with tank traps.

This brought matters down to the north, the lagoon side, where the underwater obstacles were limited to a little wire that could be easily bypassed. There was a reef off this beach, part of it sometimes exposed at low tides, but information from former British residents was that at the central part of reef and island it could be crossed by amphtracs (here to be used in the assault for the first time) and the smaller, Higgins type of landing craft at all stages of tide. There were not enough amphtracs. The division burned the air with radio messages asking for more; eventually it got them, but only as the convoy was already arriving off Tarawa.

THE DECISION was to attack on the north side, the assault to be carried by Combat Team 2, consisting of the 2d Regiment plus 2d Battalion, 8th. There were three beaches to be taken, each by a battalion landing team, two to the west of the pier and one to the east, where the angle of the airstrip would give this last battalion a good field of fire to cover the advance of the other two as they cut right across the island at its middle. The remaining battalion of the 2d was to land on call as regimental reserve; the other two battalions of the 8th were to remain under division control to be landed as the de-

*The two best short-range histories of the Pacific war both say that Army men advocated such a course, but it is not true and needs correction before the idea gets embalmed into permanence. There were no Army men present at the planning for Betio, strictly a Marine Corps operation.

veloping situation dictated. The 6th Regiment, initially separated from its parent 2d Division, was to be held aboard ship as corps reserve for use at either Tarawa or Makin depending on how things went ashore. With the six battalions on the beach the Marines would have a two to one superiority over the estimated number of Japs—a dangerously low figure, the book prescribing at least three to one for attacks on fortified positions, but there was no way to get more in.

There was to be a strong preliminary bombardment, beginning with long-range B-24s up from Funafuti, the rest from carrier planes, 1500 tons of bombs all together, with the naval vessels putting in 2,000 tons of shells. The staff planners wanted a feint against the south beach to disperse the Japs at the moment of attack, but Navy vetoed this idea. It meant setting up destroyer protection against subs for an additional transport area; and the shortage of destroyers was such that this in turn meant taking away about half the destroyers supposed to furnish close-in fire support for the landing.

This was the plan signed Col Merritt A. Edson, Chief of Staff; approved, Julian C. Smith, MajGen, USMC. There was further provision that the V 'Phib Corps reconnaissance company would be set on Apamama by a big submarine as soon as Tarawa was secured, enough troops from the 6th Regiment joining this company later to clean house on the island.

III

IN AUGUST 1943 RearAdm Keichi Shibasaki took over the command of Tarawa, with general supervision of the Gilbert Island group. The muster rolls he received for the headquarters island showed a command consisting of the Sasebo 7th Special Naval Landing Force, 1,497 men; the 3d Special Base Force, 1,122 men of the same background and training, who had originally belonged to a special naval landing force but had now changed designation; a pioneer and construction unit, 2,217 strong; 400 men of an air base unit—5,236 all told. Of course the labor troops were not fighting men but most of them had done at least some military service and two-thirds of them were assigned to battle positions, either as emergency riflemen or ammunition handlers, the remainder being listed as stretcher bearers in the event of an attack on Betio Island.

The naval situation was so insecure that it had become quite probable the island would be attacked. In fact, this question had been one of the main items on the agenda during the strategic planning conference at Truk in May, when ViceAdm Kusaka, the new commander of the Southeast Area, met with ViceAdm Kondo (now heading the 2d Fleet) and the unit commanders of the various island groups. The general plan laid down at that time was to hold the 2d Fleet with all the main battle units at Truk, "ready for any eventuality"—by which was meant that it would either rush to the northern Solomons in case of a heavy American attack there, or to the support of Nauru, Ocean Island, or Tarawa.

The situation with regard to aircraft was bad, due to the heavy losses in the Solomons and the defective training of new pilots arriving there. A group of 20 Army planes, for instance, had recently left Truk in flight for Rabaul and only two of them arrived. The conference decided that as fast as new planes and pilots became available they should go to Rabaul in the northern Solomons. The Marshall-Gilbert area would have to get along with the units of the 22d Air Flotilla now stationed there—some 40 bombers of the 97 type and 30 fighters.

In the event of an attack on islands of the Marshall-Gilbert group there would be a counterattack in four phases—an air strike by long-range planes from the Bismarcks, which would land among the Marshalls; a continuing attack by short-range planes staged through from Truk and even Rabaul (if they could be spared); an attack by a powerful squadron of submarines; and finally, while the Americans were still astride their beaches, a major blow by the 2d Fleet. The whole plan was designated as the "Waylaying attack," or "Yogaki."

IN THE MEANWHILE the outer islands of the network—Nauru, Ocean, Tarawa, Mille, Maloelap—would be reinforced with troops and construction units and everything dug in to hold an American assault at the water line for long enough to allow Adm Kondo's counterstroke to develop. Adm Shibasaki expressed himself as pleased with the progress of construction on Betio when he took over the command in August. Ashore nearly the entire island had been ringed by a barricade of coconut logs at the edge of the beaches, the logs well wired and stapled together. Tank traps were set up both east and west of the airfield and everything but the airfield itself covered with rifle pits and pillboxes well dug in, built of coconut logs with coral sand piled on their roofs, many of them con-

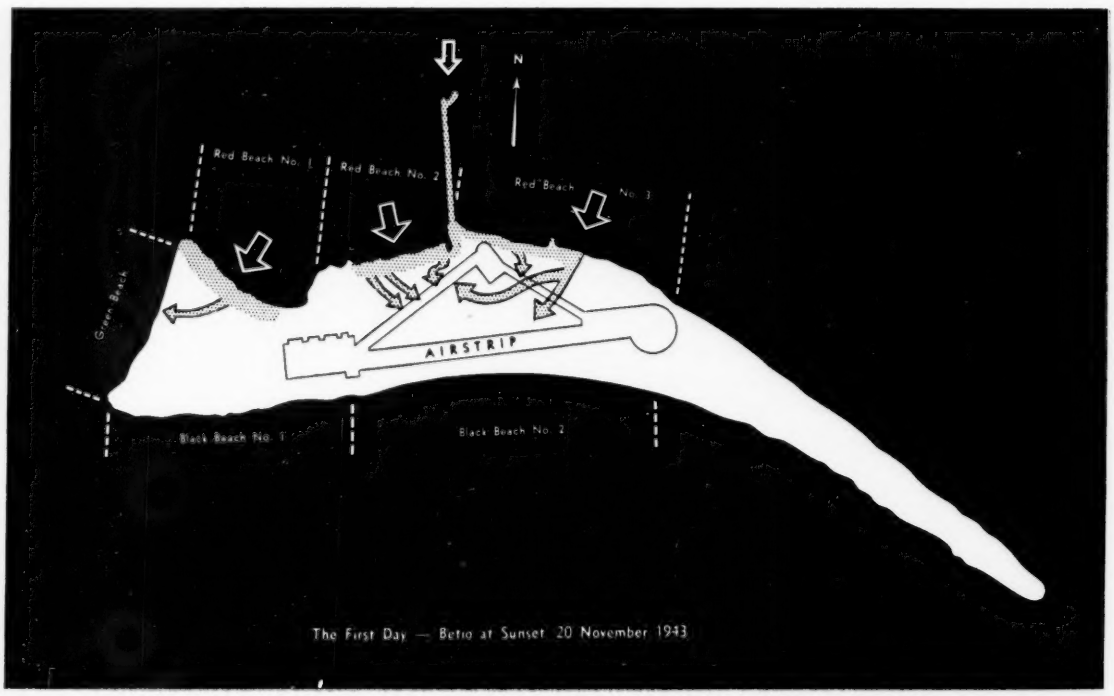
creted in addition. The bulk of these were tied into the beachhead barricade, as it was planned to make the main defense at the water line, and they were arranged to give flanking fire along the lines of wire with which the beaches were covered. There were 62 such positions for 13mm machine guns alone; of pillboxes housing lighter machine guns there were 44. The Sasebo Force had arrived with 14 light tanks mounting 37mm guns; Adm Shibasaki had these dug into the ground and their turrets camouflaged with palm fronds. His nine 37mm antitank guns were similarly emplaced, but behind concrete.

Of heavier artillery there were 14 70mm guns, most of them the normal mobile battalion artillery. These were also emplaced, the island being too small for anything but static defense. There were 10 75mm howitzers; four 5-inch dual purpose; six 80mm; four coast defense 5.5s and four fine 8-inch coast defense pieces in turrets, brought from the British defenses at Singapore, where they were no longer needed since that place had received its new name of "City of Radiant Peace." The last two sets (5.5s and 8-inch) being heavy enough to duel with warships, were mounted at the ends of the island, a pair at each end, served from bombproof ammunition rooms.

If the Americans came they would in all probability approach from the south shore. Along the fringe of reef here there had already been begun a defense system of horned concrete tetrahedrons, wired together and with mines scattered among them. Closer in to the beach were fences of clamped coconut logs that would stop an amphibious tank. Adm Shibasaki planned to carry these obstacles right around the entire barrier reef protecting the island, but by September 19 he had achieved only a partial series at the western end of the island, enough to canalize any boat approach into fields of fire for the 70 and 80mm guns mounted there. After that date, work on the reef barrier went much more slowly. The night and the following day were marked by a violent attack from American carrier planes* which burned up some of the buildings and destroyed one of the observation towers, not only making construction work necessary, but interfering both with concrete for the obstacles and with the use of boats to carry new tetrahedrons out to position. There was also some shortage of cement; the Americans interrupted shipping.

This carrier attack also upset things at the planning level by making it clear that the Americans had some of their new carriers in service. The situation with regard to Japanese carrier

*It was a special task force of the new heavy carrier *Lexington* with the light carriers *Princeton* and *Belleau Wood*, covered by three new cruisers, *Birmingham*, *Santa Fe*, *Mobile*; marking the acceptance of all these units into the first team.



The First Day — Betio at Sunset 20 November 1943

aviation had deteriorated badly since the Truk conference as a result of the summer fighting in the central Solomons. A great many planes had been lost and it was necessary to send to Rabaul even the air groups that had just been reorganized for the carriers *Hitaka*, *Hayataka*, and *Ryuho*, with the result that these ships were inoperative and no air support could be given to Tarawa except from land bases. The place being on the outer rim of defense, it was thus impossible to protect it against American carrier thrusts. Under such conditions there was no security for planes at Betio and Adm Shibasaki had his aviation ground crews taken out at once, as capable mechanics were so urgent a shortage and there was no sense in getting any of them killed under circumstances where their special skill could not be employed.

IN NOVEMBER there came a further and still greater setback to the plans for Waylaying Attack. The Americans had unexpectedly landed a force at Empress Augusta Bay in Bougainville during the night of October 31-November 1. When Adm Omori took the Rabaul cruisers down for an attack on the transports at this place, he was intercepted by a powerful American force. There was a battle; Omori reported that he had instantaneously destroyed four American cruisers, but he brought back his own force in bad shape, minus the light cruiser *Sendai* and the destroyer *Hatsukaza*, two more destroyers in sinking condition, and the heavy cruisers *Myoko* and *Haguro* suffering from gunnery damage so seriously that both had to go to dock.* He estimated that the Americans had four heavy cruisers remaining in the area.

Now they could by no means be permitted to make good their hold on Empress Augusta Bay; they would put fighters in there and end the utility of Rabaul as a base. It had in fact already been necessary to remove the 26th Air Flotilla from Buin as a result of their occupation of Vella Lavella. Adm Kondo accordingly sent down the 4th, 6th, and 8th Cruiser Divisions from Truk to make a major naval effort against the American beachhead by night, to be followed next morning by heavy air raid. The ships reached Rabaul late on 5 November, expecting to refuel the next day and go in that night; but next morning as they were peacefully minding their own business in harbor, a perfect torrent of American dive-bombers came pouring through the overcast that just touched the tops of the mountains.* It was a complete surprise since Rabaul was at that time served by only a single radar station, out on Cape St. George, and the planes had not come from that direction. The bombers nearly wrecked the whole force; *Atago* had bad leakages, *Takao's* fore turrets were burned out, *Maya* got a bomb in the engine room which started a fire that burned all day and night, *Mogami* was badly hit aft, *Tone* lost her bridge and fire controls, *Agano's* decks were cleared and all her antiaircraft guns smashed, the destroyer *Naganami* sunk, the cruisers *Chikuma* and *Kumano* were holed.

This was a dreadful affair for it took out the cruiser screen of the 2d Fleet and without cruisers the naval portion of the Yogaki Attack became impossible. Within the week it was followed by another disaster. Adm Kusaka had no intention of giving up the Empress Augusta Bay area without carrying things through to the last effort. By tapping Truk for even the flying instructors he managed to assemble enough aviation for a major effort, to take place on the 12th. On the 11th he was hit as surprisingly as before by a still larger force of American carrier planes.** A good many planes were smashed on the ground at Rabaul; those from the satellite fields managed to take the air and out north of the Solomons found a group of three American carriers. Unfortunately they also found an extremely alert combat patrol which shot down over 60 of them in a furious air battle and as the survivors were trying to reach home a lot of Marine land-based fighters jumped them and brought the total losses up to 87.

THIS MADE IT IMPOSSIBLE to execute the aerial phase of the Waylaying Attack as planned. If the Americans were to hit the islands of the outer perimeter before the cruisers were repaired or air strength restored, the garrisons would have to depend upon fortifications and the unconquerable *bushido* of the Japanese soldier. It does not appear that Adm Shibasaki was notified of the changes in plan except for one rather vague message advising him that air forces in the Marshalls would soon be reinforced directly from Japan. The Admiral knew something was up, though; he sent through a requisition for 690

*Actually no U. S. ships were lost in the battle and only two destroyers were even damaged.

*They came from the carriers *Saratoga* and *Princeton*, with which Adm Sherman had hurried up from the south on hearing of the Jap cruisers in Rabaul.

**It was the *Saratoga* and *Princeton* again; this time helped by Montgomery's three carriers, *Essex*, *Bunker Hill*, and *Independence*, which had all run in across the Solomons Sea from the north.

kilotons of cement and for enough more labor troops to let him construct immediately 23 additional artillery emplacements, seven for tanks and 24 for heavy machine guns, with the weapons to fill them.

IV

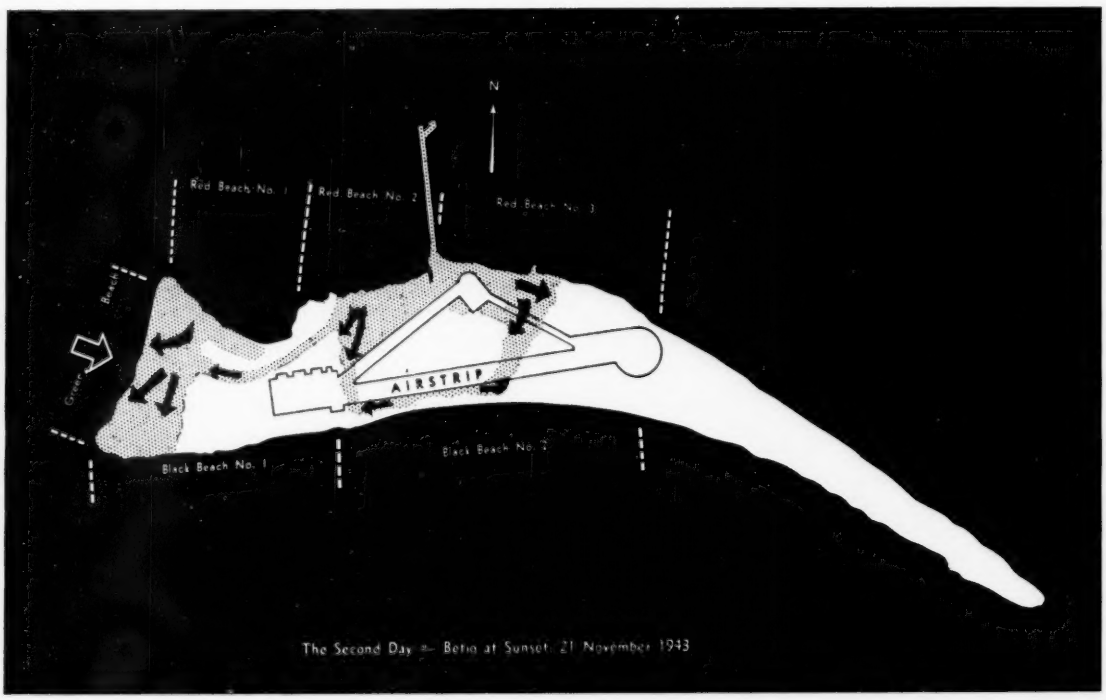
"Are you afraid?" one of the correspondents aboard the flagship of the transport group asked. "Hell, no, Mister," was the reply, "I'm a marine."

Col Edson was not afraid either, but he failed to share the optimistic estimates of the aviators and naval gunfire men that the huge tonnage of explosives put into Betio would enable men to walk ashore standing up—if indeed, there were any island left for them to walk ashore on. "We do not intend to destroy the island," Adm Hill had said. "Gentlemen, we will obliterate it."

Edson was more temperate. "We cannot count on heavy naval and air bombardment to kill even a large proportion of the Japs on Tarawa; and neither can we count on taking it in a few hours," he put it while briefing the correspondents. They were surprised; up to this point things had gone with a smoothness to which most of them were not accustomed in this war of improvisations. The loading at Wellington had clicked; several ships at a time, each done in less than 12 hours and all by 29 October. The rehearsals at Efate from 7 to 12 November had clicked far better than those for Guadalcanal and all the ships had been smoothly refueled. At D minus 2 the rendezvous with Turner's force was smoothly made at sea; on D minus 1 it turned westward and away from Makin and a big flight of B-24s went over to lay the eggs of the preliminary bombardment. There was no Japanese interference or even sighting; the carrier planes joined the B-24s and reported that nearly all the above-ground structures of Tarawa were down, they had been able to strafe at low levels and were met by only weak antiaircraft fire.

The destroyers of the escort made contact on a sub that night and the ocean heaved with the shock of their depth charges. (It was I-25 and she never returned to Japan.) Toward midnight, as the parade of ships swung around the atoll from the south, the Japs ashore woke up and turned on all their searchlights, swinging them in every direction, but not far enough out to catch the convoy, so that it was only a show.

At 0220 the transports hove to in the area northwest of the island, which loomed black down the path of the big moon. There was a little maneuvering and shuffling, since the charts were out and some currents interfered with dispositions. By 0320 marines were getting into their boats and amphtracs with a good breakfast in their bellies. H hour was 0830, still some



The Second Day — Betio at Sunset, 21 November 1943

time away, but that meant the moment when the boats would hit the beach. First sign from the shore was just before 0500, when some one there fired a red flare, then at 0507 there was a series of flashes under the light rising across Tarawa and splashes began to go up near the ships. Just two minutes later the men on the transports heard a great dull boom off to the southwest and our battleships had gone into action.

ONE OF THE EARLIEST SALVOES hit something ashore and a sheet of flame soared 500 feet into the breaking day while the marines stood on the decks and cheered. (After it was all over they found that one of *Maryland's* 16-inch armor-piercers had exploded inside the "bombproof" magazine for a pair of 8-inch.) The bombardment went on like the slow beat of an enormous drum till 0542, when the shore guns had fallen silent and an order was given to cease fire in preparation for the carrier air strike that was to follow instantly. The planes were late for a reason which no one, not even the commanding admirals, were ever able to ascertain; nor did word of the lateness get through either because aboard the flagship *Maryland* the shock of her own heavy artillery had damaged some of the communications equipment and the rest was overloaded. (Everyone in the Tarawa operation seemed possessed of an irresistible desire to express himself on the air.)

Instead, the Japs ashore began shooting again, this time dropping shells right into the transport area, with straddles on two of these very tender vessels and the certainty they would soon get hits. The size of the splashes confirmed our intelligence reports that the Japs had 8-inch and 5.5s in there. The transports scuttled northward with the boats already in the water following as best they could; *Maryland* led the line in again and took up the matter of these shore guns. She did a good job of it; one of the 8-inch was found later with its whole barrel blown off by a direct hit and at least two of the 5.5s seemed to have been put out of business at this time, but the remaining Jap artillery kept dropping shells among the transports and they had to move still further seaward. The carrier planes grew later and later; Adm Hill signaled that H hour was postponed to 0900.

At 0620 the planes came at last. The schedule called for 12 torpedo bombers to hit each of the three main battery positions with a 2000-pounder each, the scout bombers to use 1000-pounders on the dual purpose batteries, the remaining torpedo bombers to drop sticks of 100-pounders and the fighters to strafe. The whole island heaved in a tumult of smoke and dust; it was found afterward that the last of the 8-inch guns had taken a direct hit from a 1000-pounder dropped by one of *Chenango's* flyers. Yet amid that tumult which so impressed less experienced observers a few men were growling, Marine officers who thought they knew the explosion of a 2000-pound blockbuster when they saw one and who had not seen any. They were there, but not as many as expected, the Army planes that were to bring more 2000-pounders never showed up at all, and the total weight of bombardment amounted to less than half of the scheduled 1500 tons.

Never mind that now; the little boats had begun their long walk across the water while ahead the minesweeper *Pursuit* was pushing into the lagoon to lay a smokescreen, and outside the battleships and cruisers paced up and down, firing steadily now on area targets, the whole island being so covered with the smoke and dust of explosions that nothing specific could be seen. Nevertheless, there was recurrent fire against *Pursuit;* the destroyer *Ringgold* moved in to cover her and was herself hit three times, right amidships, one of the hits putting an engine out of action. There was another hitch here; the day had come in bright and clear, but with a strong unseasonable wind sweeping in from southeast across the island and lagoon. The skipper of the minesweeper found that when he laid his smoke-pots the wind would blow it right back in the faces of the advancing marines and asked permission (granted) to call the smokescreen project off.

THE MEN in the boats did not worry too much about that; there was plenty of smoke on the island from shell bursts. But as they reached a point about 3,000 yards from the beach there began to be air bursts over the landing craft from Jap 75s, then the water was stirred by long-range machine gun fire and some from 37s. There were no casualties yet, the bursts were too high and too small, the fire of the smaller guns wide. A scout-sniper platoon under Lt William Deane Hawkins pushed right through it to make the first contact, on the long pier. The scout-snipers worked expeditiously in toward the shore, cleaning out a couple of storehouses with flame-throwers, while a gasoline dump at the end of the

pier burned furiously, throwing off a long rolling tail of smoke.

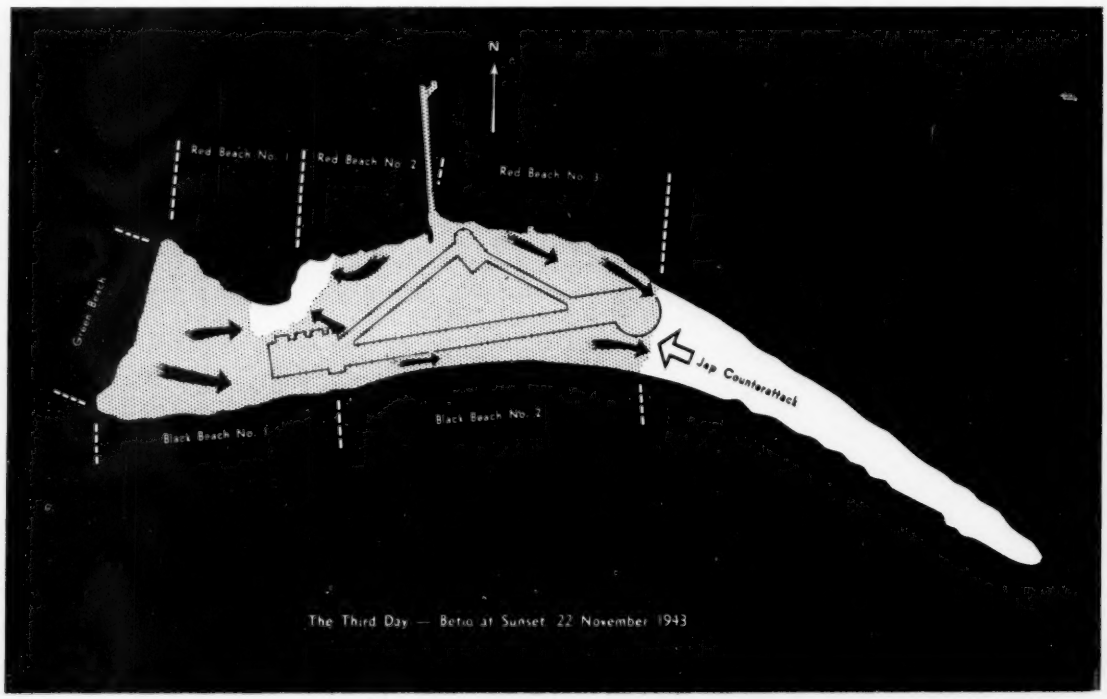
V

NOW CAME TROUBLE. As they reached the reef the marines found that the southeast wind had blown the water off it beyond all expectations; only the amphtracs carrying the first three waves could get through, the Higgins boats behind grounded. The men in the latter had to jump out into water up to their necks and wade shoreward for nearly half a mile, loaded with heavy combat equipment. Precisely at this juncture (for it was now 0900, H hour as set) the fires of the fleet lifted from the beaches except that of the destroyers *Ringgold* and *Dashiell* in the lagoon having a private fight with some guns east of the pier. As we have seen, most of the heavy coast-defense pieces had been disposed of by shellfire or bombing; but the 37s, 13mm and heavy machine guns of the beach barricade, well covered in, were immune to anything but a direct hit on the aperture from an armor-piercing shell and there had been very few such hits. The cease fire at 0900 gave the men in those defenses just enough respite to recover from the shock of the bombardment and now they all opened up at the marines wading for the beach and the amphtracs that had crossed the bar.

Amphtracs were hit in the water and every man in them killed by mortar and 37mm shells. Amphtrac drivers in the new machines that had come out at the last moment were killed by small arms fire when it proved that these had no protection for the driver. Waders were killed right and left, something like 20 per cent of the terrible casualties at Tarawa taking place in those few minutes. As the men of the first wave hit the beach at 0917 they found themselves on a 10-yard strip of sand raked by fire and with a high coconut sea-wall behind it. The moment they tried to climb the wall more machine guns fired into them; a good half of the men who tried to work inland were cut down, and in the area just west of the pier, where LtCol Herbert R. Amey's battalion of the 2d Regiment had landed, it proved utterly impossible to run the vehicles through or over the wall as planned. Six of the battalion amphtracs were hit in the water. Amey himself was killed and Maj Rice, his executive officer, was pinned down in a shell hole, out of communication.*

Maj Henry P. "Jim" Crowe's 2d Battalion of the 8th Regiment got to land east of the pier with light casualties, chiefly because the destroyers were working over that area, and two of his amphtracs slipped through the barricade to reach the northward projection of the airfield. Then they were stopped by a big blockhouse on their

*LtCol Walter I. Jordan, a 4th Division observer, took temporary command.



The Third Day — Betio at Sunset 22 November 1943

left which opened fire on them with 37s, and heavy machine gun fire ahead. There was another blockhouse to right of Amey's battalion which squeezed it down toward Crowe's position. The same structure with a number of others had driven the 3d Battalion, 2d Regiment, well westward and out of touch with the others to the tip of the island, where the big Jap batteries had been.

This was Maj John F. Schoettel's battalion. At 1500 he was still in a landing boat off shore, isolated from his men as they were isolated from the other landing teams and Maj Ryan had to take over command till a positive order from Gen Smith sent Schoettel in to "land at any cost." This battalion managed to get one message through—"Issue in doubt"—but it was about the only message they did get through except by means of amphtracs taking out the wounded. The TBY radios had been drowned during the wading process and failed utterly. There were no others. Neither the warships shelling other parts of the island nor the carrier planes cruising overhead could get any word from the beach, any identification of our line, or give the support they were so anxious to render.

By 1000, except in Maj Crowe's area, the beachhead was nowhere more than 20 yards deep and that 20 yards still held concealed snipers who shot men in the back. Col David M. Shoup of the regiment had come ashore and now called for reinforcements, the 1st Battalion, 2d Marines, in the same area as the 2d Battalion and the 3d Battalion, 8th Regiment, in Maj Crowe's area. Some light tanks began to get in. But the 3d Battalion, 8th Regiment, was caught on the reef in Higgins boats and heavily shelled so that it was completely disorganized by time it reached the shore by wading in on both sides of the pier. There was no artillery, the Jap guns were too heavy for the medium tanks. All the units on the beach had lost a lot of officers and became much intermingled so that the whole thing turned into a soldiers' battle. At the main landing there was still no word from the Schoettel-Ryan battalion down at the peak of the island. The condition at the beaches was bad, ammunition and everything else needed, unloading slow. The fire from the antiboat guns did not cease.

A report went out to Gen Julian Smith; "We need help; situation bad." Early in the afternoon that officer asked for the use of the Corps reserve, the 6th Regiment, still aboard transports. As things were going so well up at Makin that it evidently would not be needed there, he got it. It would be just after this that Maj Ryan at last got a radio working and reported from his isolated station. He had six tanks in action and had made a nice gain, a full 150 yards down the western beach, though there were still some fortifications north of the airfield that kept him from reaching eastward and hooking up with the main movement.

That was the situation by the night of the first day—the 3d Battalion, 2d Regiment solidly established at the island's tip; two battalions of the 2d and two of the 8th maybe 75 yards along a floating, uncertain line at the pier. These last four battalions had had something like 35 per cent losses and these losses had fallen where they could least be afforded, on key men, like company commanders and platoon sergeants. The units were disorganized, the men were tired, and the commanders awaited a Japanese counterattack with something like apprehension.

That counterattack might have been very serious under such conditions but it never came. The marines did not know it at the time but they had derived an unexpected benefit from the preliminary shelling. It had completely knocked out the Japanese communications system, not a line of wire working, not a portable radio working on the island. There were many hundreds of the enemy still alive, well hidden in the bombproofs and full of fight; but they were isolated little groups who could not get in touch with one another even by runner because of the constant presence of our fighter planes, strafing everything that moved in the Jap-held parts of the island. A few of them stuck their heads out of holes, but the Marine division was well trained and battle-experienced; there was no wild firing to give away positions, and the Japs ducked back.

During that night of D day, 20 November, in fact, a crisis was met and passed—a double crisis on sea and shore. Instead of a counterattack there arrived in the area around the pier the guns of Pres Rixey's battalion of the 10th Regiment. They were pushed right up to the front, where the single bulldozer on the beach built embankments around them. (When they opened fire next morning the first shot was at 75 yard range.) The men got some rest and had a chance to find that more of them were alive than dead; they knew reinforcements were coming.

Continued on page 55

Are Service Schools Up to Date?

By Maj John J. Wade, Jr.

MY HOME STATE HAS BEEN NOTED FOR strange political platforms. Recently a candidate for state senator gained considerable publicity by long and loudly advocating the abolition of professional instructors from our educational system and their replacement by industrial leaders and professional men able to supplement theoretical instruction with their own wealth of practical experience. He climaxed each campaign speech by pointing out that his system has long been used by service schools which recruit their instructors from units in the field.

His defeat at the polls may not have been truly indicative of the fallacy of such a proposed reorganization. Yet his campaign brings to the fore the extreme divergence between educational methods peculiar to service schools and civilian institutions.

Let us consider his prime argument, that the university instructor and the man who has achieved success in civilian life can and should play interchangeable roles for the ultimate benefit of society. Many of the nation's most eminent instructors might never have been a success in the business world, due primarily to the fact that their driving ambition has been to teach. Their specialization in business management, engineering, or political science manifests but a secondary facet of their basic personalities. Their achievements in education have resulted not so much from technical knowledge of a particular field as from their inherent talent for teaching. Circumstances alone might have caused an eminent economist to have been an equally noted historian, whereas the man would have required an entirely different psychological constitution to indulge in practical economics in the business world.

It can be argued that the professional mind would tend to be unsuccessful in competitive enterprise, even that a modicum of stupidity is essential to business success. A man unable to foresee pyramiding future difficulties will often plod through one obstacle after another, while the intellectual might seek an easier course, even at the price of altering his goal.

On the other hand, how many of our business leaders are qualified to discuss profound economic doctrine? How many practicing attorneys are now prepared to teach jurisprudence? How many doctors could undertake to conduct a medical course tomorrow? Of course exceptions can be named in every field, but the fact remains that our civilization has fostered two distinct types, the instructor and the entrepreneur. Basic personality traits differentiate the two and, in general, prevent each from successfully playing the role of the other.

The armed forces, however, have yet to recognize such doctrine. Why should organized service schools disregard accepted educational procedures which have stood the test not of years but of centuries? True every officer, noncommissioned officer, and petty officer in the various branches of service must act also as instructors in their capacity as unit leaders, but this principle need not be the keystone upon which permanent schools are organized.

NEVER HAS there existed such a necessity for specialization in the armed forces, now on the threshold of a radically new, intensely technical era. In the past we have recognized the need for specialists by the very institution of various arms and branches by classification of officers and enlisted personnel according to military occupation, and by the organization of branch schools for training of specialists in every arm.

Having reached this point, specialization arbitrarily ceases. Service schools continue to be administered by officers who circumstantially must be jacks-of-all-trades, yesterday a staff officer, today a teacher, tomorrow a troop leader.

No practical formula has ever been devised for selection of instructors. Within certain limits service schools are generally staffed on

The problem: A lack of military instructors well-versed in education techniques
The solution: Assigning qualified instructors to teach solely on a career basis
The result: Service schools on the same plane as civilian colleges or universities

no basis other than current availability of personnel. The man most possessed of the attributes of an able instructor may never be assigned such duty due to the sundry demands of the service.

The situation is aggravated by the fact that service schools are seldom accorded their proper status within the educational structure of the nation. The Naval and Military Academies justly rank with colleges and universities. But what of the service schools attended by the military man throughout his subsequent career? Are they on a plane with the law school, the medical school, the graduate school of business administration? The obvious answer indicates the fault lies within the current service educational system.

Corrective measures can and should be instigated. Why should we not carry a program of specialization through to its logical development, and establish a new specialist branch within the services, that of educational officers? Responsibility of this educational department would be the organization and administration of all service schools, be they basic, advanced, general or special.

THE PROBLEM of first magnitude would be the procurement of educational personnel. Several sources can be tapped. Officers now in service may be assigned for instruction in suitable civilian institutions to complete work required for an educational degree, in much the same fashion that such personnel currently pursue studies in law, personnel administration, electronics, etc. Doubtless, a number of officers now on active duty already possess many of the credits required for an education certificate, if not the certificate itself.

A second means of procurement would be the commissioning of experienced civilian educators if their permanent services could be assured. It is believed they could best be utilized in the role of service school administrators, due to their lack of military background, and hence would be required in no great number.

A third source is graduates of civilian colleges and universities holding education degrees. Upon being commissioned they would receive thorough training in military science, tactics and technique, first in basic, then in specialist fields. It is not inconceivable that coordination might be effected within civilian institutions between the education curriculum and existent ROTC programs.

IT MUST BE remembered that establishment of such an educational department is in complete harmony with the peacetime mandate of personnel economy. Adoption of the program would cause no increase in the current strength of the armed forces, comprising as it does the simple substitution of an educational specialist for each officer currently assigned as an instructor, but who is primarily trained for other duties.

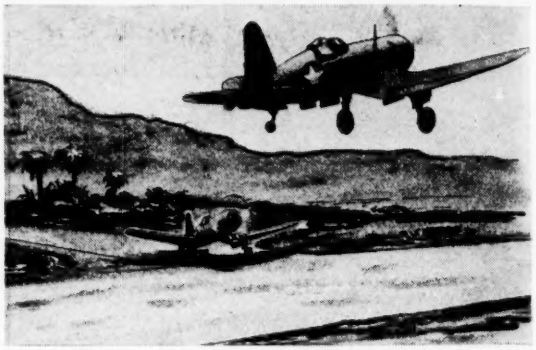
Opponents of such a plan will undoubtedly argue that service schools currently offer instruction by personnel experienced in each field of military endeavour, the practicality of which is enhanced by perpetual rotation of instructors between troop units and schools. Without reiterating the inherent disadvantages of such practice, it is offered that all existing benefits can be perpetuated by simple provision that educational department personnel be assigned one year in each four to duty with troops. During such tour, educational personnel should be detailed, by regulation, to staff duty only, not command. Thus, continuation of the present policy of liaison between troops and schools would be assured.

The very institution of a brief course in technique of instruction, such as has been adopted throughout the services, constitutes admission of the shortcoming of the current system. Such a stop-gap may have been the only feasible means of correcting an adverse condition while maintaining continuity necessitated by war-time pressure. The uncertainty of things to come demands that we avail ourselves of the present opportunity to transform our service schools into military educational institutions on a par with recognized civilian graduate schools.

US MC

Devil Birds

SPEARHEAD IN THE SOLOMONS



By Capt John DeChant

WITH THE END OF THE CACTUS SHIVAREE, the Marine Air Arm was given a new and different role: that of spearheading the Allied drive up the island chain. Its squadrons were to carry a major load in the year-long offensive and its ground echelons were to play a dominant role in the campaigns which finally put an end to any semblance of Japanese air strength over the Solomons.

There was little delay in the amphibious drive through the Solomons. Before the Guadalcanal campaign closed, the offensive to the northwest had begun. The enemy, by plan, was holding up along the Munda-Kolombangara front in the New Georgia group and intensifying air-base development back up the line to Rabaul. The purpose of the new Allied drive was to keep the Japanese backpedaling and on the defensive.

The first major invasion objective was the air base at Munda. Backing its defense were installations at Vila on Kolombangara; airfields at Ballale, Kahili, Kieta, Kara, and Buka with seaplane bases in the Shortlands, Rekata Bay, and Soraken. This network of Japanese air defenses was fed by five fields in the Rabaul area and provided the air umbrella for nearly 50,000 enemy troops still in the islands.

Diamond tip on the Marine air spearhead was a new and excellent weapon—the Chance Vought Corsair, or F4U. The first plane to better the Zero's performance in Pacific combat, it looked like a blue ball bat with inverted gull wings. The Corsair was originally built for use aboard Navy carriers, but was thought to be unsuitable for flat-top duty. Turned over to the Marines for land-based use, the F4U proved to be the major nemesis for any type of fighter plane the enemy produced. In the hands of marines, it became the most versatile fighter craft in the naval service, doing five-way duty as a land-based fighter, a carrier-based fighter, a fighter-bomber, both on land and off carriers, and a night-fighter.

A MARINE CORSAIR SQUADRON (VMF 124) saw combat for the first time on February 13 when its planes escorted B-24 bombers to attack shipping in the southern Bougainville area. Corsairs continued to escort the high-level bombers to Bougainville until ineffective bombing and high plane losses forced the B-24s to operate at night. But it was not until the summer months that the F4U generally replaced the F4F as the Marine fighter plane.

With the end of the Guadalcanal show and the refurbishing of the units there, the air campaign picked up in tempo. The island marathon was on again. Army and Marine troops invaded the Russell Islands, 30 miles northwest of Guadalcanal, on February 20. Covered by Marine fighter patrols and other Henderson-based elements, the landing met no opposition. The infantry consolidated positions on Banika and Pavuvu.

Advance elements of Marine Air Group 21 landed at Banika on March 13 and began development of an air base with the aid of the Seabees. The base eventually had so many stateside comforts, including a free hamburger stand and steam laundry, that it was known as "Boomtown." Under the command of Col Raymond E. Hopper, MAG 21 readied a 2,000 foot coral airstrip on which the first emergency landing was made May 7. By early June, two Marine Corsair units were in operation off Banika.

March passed as the quietest period of the Solomons' air war as the enemy shifted emphasis again to the New Guinea theater. Only eight enemy planes were downed in the month with no losses in air combat to Allied fighters. Meanwhile, Strike Command took quick advantage of the absence of enemy fighter patrols to intensify its milk-run shuttles and expand its range of operations.

Part III: Newly-arrived Corsairs and Hellcats prove a match for Jap Zeros over the Solomons. Continually pounding Jap airfields and shooting down numerous enemy planes, the Marine flyers close out the air campaign in the Solomons

Though lack of larger bombs and the planes to carry them made it impossible for Marine and Navy airmen to annihilate Munda and the other enemy airfields, the persistence of their attacks and their unusually high degree of accuracy made the bombing efforts a temporary but continuing success.

Vila field on Kolombangara received its share of the daily heckling, including the 1,000 pound "daisy cutter" bombs. These exploded just above the ground and scythed a large area around with small, sharp fragments. The "daisy cutter" was so effective that Radio Tokyo protested vehemently against this "inhuman" weapon and made dire and mysterious threats of retaliation.

In a move to help choke off the enemy's supply and water support traffic, 42 TBFs of VMTB 143 and VMSB 144 saturated the waters around southern Bougainville with shipping mines. This ticklish mission on the night of March 20 was the first of its kind in the South Pacific.

The Japanese who had been heavily reinforcing their major bases at Rabaul and Kavieng, on New Ireland, briefly reopened the battle for control of the air. They sent down two raids against the new American positions in the Russells on April 1, losing 20 planes to six for the Allies.

Goaded by the easy Allied air successes and the Navy's cruiser-destroyer task force raids, the enemy struck back vehemently on April 7.

Early that afternoon, ComAirSols got word from the coastwatchers that a giant raid had formed up over Bougainville and was closing on Guadalcanal. Sixty assorted planes were scrambled to meet the incoming armada of 160 Zeros and Aichi dive bombers. Among the interceptors was a four-plane division of Wildcats led by 22-year-old James "Zeke" Swett, a first lieutenant who had yet to see an enemy plane in combat.

At 1530, the Japanese raid swept through the thin cloud cover over Cape Esperance and headed for the shipping concentration in Sealark Channel. Contact was immediate. A dogfight fanned across the sky as the Aichi dive bombers broke out of the formation, in the usual tight patterns and headed for the ships. Swett's division peeled off at 15,000 feet and closed on the rear of the Aichis. Less than 15 minutes later, Swett had catapulted himself into a world's combat record and won the Medal of Honor by destroying seven bombers and a possible eighth.

Swett told the story of his killing spree with the same dispatch that he went through it:

"I got on the tail of the first one and gave it a squirt. He jettisoned his bombs and burst into full flame. I skidded and mushed in behind No. Two while my tracers laced him. He smoked, burned and went down. I had trouble getting the third one boresighted. Then I relaxed and the plane flew itself into the saddle. As the Aichi nosed over in his bomb run, my first burst smoked him. When he pulled out, I was still on his tail. A few more bursts and he exploded. Just as I pulled away, one of our 40mm AA gun crews on Tulagi drew a bead and wrecked one of my port guns. They almost blew it out of my wing."

Swett, ducking over Florida Island to check his damage, spotted five more bombers lumbering north toward the protection of a big cloud area, and away from the dogfight over the Channel. He swung into position below and behind the Aichis which were strung out Indian file, three-quarters of a mile apart. Then he gunned the F4F and began his fish-tailing run up the string. He hit the first plane before its rear gunner saw him. As tracers flamed its gas tanks, the bomber nosed over gently and hit the water afire.

Crossing over on Victim No. Five, the marine squeezed out two quick bursts that went home. The Jap plane gushed smoke, burst into flames and crashed. Pouring on the power, he closed the next gap, but was too eager. He got so close that the Aichi's slipstream jolted his aim. But he dropped back, fired, and the bomber followed its predecessors' pattern of oblivion.

The seventh kill was the easiest of the day. A quick flurry of tracers from the side and the Jap burned like wildfire and sputtered out in the sea. Swett, with his guns still firing, went for the last of the five planes.

This time there was no surprise advantage. As he closed, the Jap rear gunner laced lead right into Swett's face. Machine gun slugs and tracers streamed through the greenhouse in front of him, shattered its glass in his face. Blood spurted from a deep gash in his nose. In the confusion, Swett failed to push the trigger button and overshot his target.

With blood smearing his vision and oil streaming from the Wildcat's engine, Swett jockeyed the plane back into position. With his first burst of fire, the enemy rear gunner fell over his guns. Swett held the trigger down until the last of his ammunition hammered into the dive bomber. Pluming heavy black smoke, it disappeared into the clouds.

Swett, afraid of being caught alone by Zeros, turned his battered plane back toward Tulagi. Over the harbor, his engine conked and he moved out to sea for a water landing. As he passed low over Tanambogo, a battery of our .50 caliber AA guns tried frantically to finish off what the enemy rear gunner had started. Tracers ribboned by the plane for many seconds, but did no further damage.

Swett crash-landed on the water, but was trapped in the sinking plane as his parachute straps caught and held. Only after the F4F passed the 15-foot mark on the way to the bottom was he able to wrench free and rise to the surface. Dazed from the shock and with blood running freely over his face, Swett managed to inflate his life raft and climb onto it. Then, as if in final insult, a small picket boat pulled in close to the raft with a machine gun and rifles trained on its occupant.

"Are you American?" the crew shouted nervously.

He could only answer, "You're goddam right I am!"

"Oh, one of them marines," the coxwain said. "O.K., pick him up."

That afternoon, 38 enemy planes were destroyed with a loss of only one of our pilots. In addition to Swett's seven, the marines accounted for 21.

THROUGH THE BALANCE OF April and May, the air forays were few and indecisive as both sides built up their reserves against future events. These slightly subdued periods were not, however, without their bits of drama, some of which seemed beyond even the fictions of war or Hollywood.

One of these was the constant parade of aerial castaways who, having failed to return from missions, were listed as MIA (missing in action) and at least tentatively committed to the realm of the departed. During the early months on Guadalcanal, a goodly number of airmen like Leslie, DeBlanc, Meents, Hurst, Lundin, Smith, Carl, and Amerine went down at sea or in the jungle behind enemy lines and worked their way back to Henderson in a matter of hours or days. Some had harrowing experiences like Amerine, who had to crush a skull and rob his victim on the way back.

The coastwatchers and their skillfully organized network of friendly natives brought scores of others back right under the noses of enemy patrols. Still more returned in planes flown by men like Maj Michael Sampas who became so adroit in rescue operations that he was commended for saving the lives of 39 pilots, 61 aircrewmen, and over 200 others in less than three months.

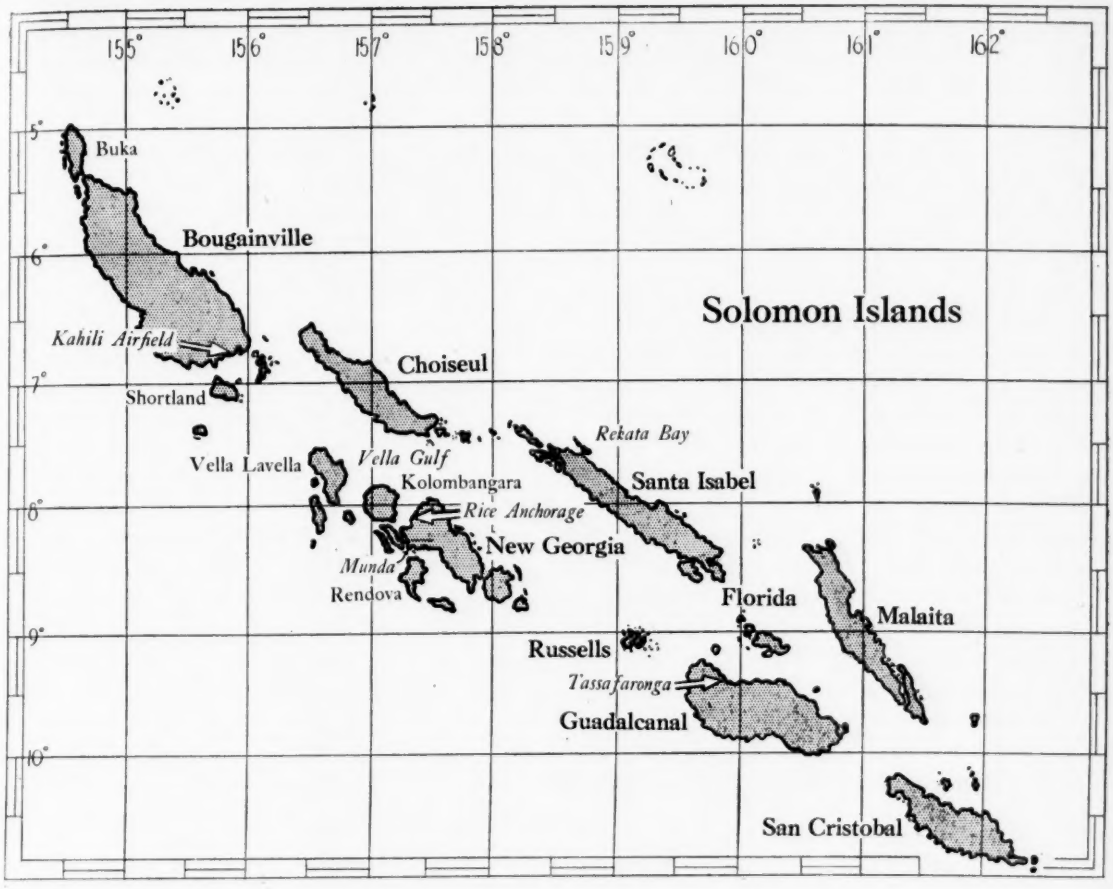
Rat Race Over No-Man's-Land

THE AERIAL SPARRING OF April and May developed gradually into a battle of annihilation as the actual drive on Munda began. Time and new arrivals slowly tipped the balance to Allied favor as the Japanese Air Force lost heavily in each sortie.*

Twenty Zeros appeared near New Georgia on May 13 after their installations at Munda and Kolombangara had been shelled during the night. A large fighter screen from Henderson intercepted and batted down 16 of them. Fifteen of the kills were by pilots of VMF 124 and 112, the Wolf Pack squadron. Capt Archie Donahue was credited with four kills. Three were shot down by tobacco-chewing Kenneth A. Walsh, once a flying corporal and now a first lieutenant who became one of the high scorers of the mid-Solomons' battle.

In the neutralization raids on northern bases, Marine fighters of VMFs 112 and 124 and Navy

*MajGen Ralph Johnson Mitchell, a balding, hawk-faced veteran of two decades in the air arm, traded commands with Gen Geiger in April 21. Mitchell, who was to spend 27 energetic months in the forward areas of the Pacific, took over the First Wing. Geiger returned to Washington to become Director of Marine Aviation again. BrigGen Field Harris, a somber southerner, as commander of the Forward Echelon of the First Wing, was tactically in command of Marine elements in the Munda drive. Harris, who was awarded the equivalent of four Legions of Merit for his Pacific combat leadership, was also Chief of Staff for ComAirSols during the period.



bombers caught a destroyer, a corvette, and cargo ship near Buin, on June 5. They burned the corvette and the AK and were given a probable on the destroyer. The fighter umbrella beat off an interception, shooting down 15 planes and losing five. Of the kills, Lt Walsh was credited with two Zeros.

A larger engagement near the Russells on June 7 resulted in the loss of 23 Zeros, 4 Allied pilots.

As the fighter scores went up, the bombing pace increased. Marine SBD and TBF squadrons aided by those of the Navy and the Army high-level bombers stepped up their raids to neutralize the enemy airbase chain up to Bougainville.

THE NEW GEORGIA invasion schedule called for simultaneous landings at Rendova Island across Blanche Channel from Munda and at Viru Harbor, Wickham Anchorage, and Onaivisi. Marine Raiders landed secretly at Segi Point on southern New Georgia June 21 to move in on Viru from the rear.*

Early on the morning of June 30, the main landing was accomplished at Rendova without major incident by the 43d Army Division, accompanied by the staff of the Second Marine Air Wing.**

Two Japanese air attempts to reach the Rendova transport area were brushed off by the fighter cover. Then, in midmorning, as the invasion fleet pulled out of Blanche Channel, the Allied air umbrella of 170 fighters pounced on Japanese torpedo planes attacking the transports. That interception touched off an epic air battle which ended with 100 enemy planes destroyed of the 130 which had appeared.

*The Raider landing there met with no opposition and work begun at Segi on an interim airfield. VMF 214 began operating off Segi field on 24 July but after opening of Munda, Segi was not used extensively by Marine or Navy planes.

**Commanded by MajGen Mulcahy, the Second Wing staff comprised the major portion of ComAir New Georgia during the invasion phase of the campaign.

THE TROOPS MOVING AGAINST MUNDA took five weeks to capture the field while the air battles raged overhead. Even the jungle-wise Raider units of the Northern Landing Force failed to meet with their usual success. They went ashore at Rice Anchorage on northern New Georgia on July 5 to advance on the Bairoko-Enogai area and prevent reinforcement or retreat of the Munda garrison. Strong air support was unable to destroy the heavy enemy positions at Bairoko and the Raiders were forced to retreat after driving a patrol into the village. They received further air support in their withdrawal and were dropped rations and medical supplies by SCAT transport planes during the action.*

Enemy planes continued to attack the New Georgia beachheads. Out of 70 bombers and fighters sent down on July 15, the enemy lost 45. Eight VMF 122 planes made the first interception and shot down 14 planes in as many minutes. Two more divisions of Corsairs jumped the survivors and got 16 planes.

The main source of these counterattacks was the enemy field at Kahili. Their bases at Munda, Vila, and Ballale were inoperable due to bombings. Three heavy missions were directed against Kahili during the early morning of July 17. Escorting Corsairs destroyed 38 enemy interceptors. The bombers sank a light cruiser, two destroyers, two cargo ships, a patrol craft, and a tanker.

In the final drive on Munda airfield, the small bombers blistered enemy strong points, wiping out pillboxes, supply dumps, bivouac areas, and machine-gun nests. Bairoko, too, received its share of attention from the SBDs and TBFs. On July 21, 132 planes pounded that area in six separate attacks.

The ground campaign ended formally on August 5 when Marine tanks and flamethrowers spearheaded the Army infantry capture of Munda airfield. The enemy's bitter resistance had cost him heavily—358 planes, several thousand ground troops, and 40 ships sunk or damaged.**

AT ITS CAPTURE, Munda airfield looked like a slash of white coral in a Dore drawing of hell. It lay like a dead thing, between the shore of Blanche Channel and the torn, coffee-colored hills of Bibilo and Kokengolo. The Seabees performed their usual wonders despite Jap snipers and bombers and in ten days the field was ready for operations of a sort.

Two Marine squadrons came in first. They began operating on August 14 under conditions which they labeled "slightly informal." The lack of adequate ground crews, fuel, spare parts, oxygen, and the rugged condition of the field plus a lack of night-fighter defense put their first month of operations in the category of the equally primitive conditions at Henderson Field just a year before.

The enemy's 11th Air Fleet and its seemingly inexhaustible complement of skilled pilots and planes were now showing signs of wear. The Corsair had proved a match for the Zero-type fighters and so did its new, rugged Navy counterpart—the Hellcat (F6F)—then making its initial appearance in the Solomons. But the air defense of Munda still was proving a desperate and costly business. The end was not in sight and Allied pilot and plane reserves were running thin.

Early Allied offensive plans had envisioned the Solomons campaign as a war for airfields which might necessitate the eradication of the enemy from each of his many island bases, one at a time. This tedious process was discarded with the taking of Munda and dropping of plans for a large-scale invasion of Kolombangara. Island-hopping was the new technique which was to prove that while the Japanese island bases were "unsinkable carriers," they couldn't maneuver.

The next step in the campaign to choke off enemy airpower at Kahili, its vital source in the Solomons, was the invasion of Vella Lavella. This island lay across Vella Gulf from Kolombangara and its 10,000 defenders. Vella Lavella, in contrast, had negligible defenses. It was invaded on August 15 by an Army combat team and a Marine defense battalion. Naval forces and air cover watered down possible strong points of interference. The only immediate opposition to the landing came via the air.

This new penetration closer to Kahili brought violent reaction from the Japanese air force and there ensued a series of milling air battles as fighters from Munda defended that base, the beachhead at Vella Lavella, and closed on Kahili itself.

It was during this period and the early phases at Munda that Marine fighter squadrons piled

*During late July and early August, the Marine transport planes successfully dropped 100,000 pounds of food, ammunition and medical supplies to the ground troops in New Georgia.

**Marine squadrons were credited with a startling ratio—as high as 25 to 1 Jap planes destroyed in the air for each Marine loss.

up kill-scores reminiscent of the pace set by Smith, Carl, Galer, Bauer, and Foss over Henderson Field.

For example, the Munda spree netted the Hellhawk squadron (VMF-213)—a total of seven aces and 102 planes with a loss of only eight pilots. On its roster were three of the ranking fighter pilots of the South Pacific—Lt Wilbur "Gus" Thomas with 16½ kills; Lt Edward O. Shaw with 13; and Capt James N. Cupp with 12 victories.

Ranking ace for the moment was Ken Walsh, who fought precisely as would be expected of a Brooklyn-born Irishman. With 10 years in the Corps and 2,000 flying hours in his log book, Walsh had a penchant for tackling any odds. He had three planes riddled under him, but shot down 20 before he left the Solomons.

As Walsh had found, late August provided ample excitement for the fighter pilots, both on defense and offense. Capt William Crowe and Lt Thomas Mutz were separated from their Vella patrol and climbed to meet an oncoming Jap raid of 130 twin-engine Bettys and fighters. They jumped the back of this armada and rode it down to its target at Vella Lavella. Fighting through a screen of friendly flak and enemy tracers, Crowe and Mutz downed four planes between them before pancaking their riddled Corsairs at Munda.

Out of a black storm front that hung over Kahili on the afternoon of August 26, plummeted a lone Marine fighter plane, upside down. Lt Alvin Jensen flipped it over as he went in on the field. His wingmen had been lost in the swirling thunderhead.

Jensen leveled off below the treetops and roared down the mile-long strip weaving violently, his tracers biting into the packed planes and startled gun crews. In ten seconds, aerial photos later showed, Jensen destroyed 12 Mitsubishi bombers, eight fighters, and four dive bombers. He was awarded the Navy Cross for his lone mission.

AT MUNDA, muscle was being built into the air force as squadron after squadron of bombers, fighters, transports, and patrol planes moved into the revetments and hardstands even before the Seabees had time to complete them.

Bomber take-offs at Munda made the air control officers wince. Planes couldn't get away singly; there wasn't time. They pelted down the field in tandem with as many as nine planes in motion at once. Some were bound for air-support missions at Bairoko or Vella Lavella. Others pounded Kolombangara and Choiseul. But in the main they were bound for sprawling Bougainville and its airfields. Day after day, Gen Moore* passed the order—hit Kahili, hit Ballale, hit Faisi, hit Kieta, hit Kara, hit Bonis, hit Buka—hit them singly, hit them together, hit them day after day, and never mind the weather.

But the enemy did not sell Kahili cheaply. It was their key air base in the Solomons. Planes, mostly fighters, were jammed along its length. From its flanks and tiny, nearby Ballale island spouted the heaviest antiaircraft fire in the Solomons.

Kahili had all the resilience of a sponge rubber wall. Each time the raids came north, a batch of Kahili fighters were shot down. The next day, its supporting fields fed in a new swarm of planes which would add to the growing Allied losses before they too were shot down and replaced.

Since the early raids in February, Kahili had been regarded as the place where the bold, not the old, pilots visited. Because of Kahili, by early September the air war for control of the

*BrigGen James T. Moore of the First Wing relieved Gen Mulcahy as ComAir New Georgia.

Corsairs line up for the takeoff at Barakoma. Munda and Barakoma planes averaged four bombing attacks per day on Kahili network prior to the Bougainville invasion.

Solomons was still in a costly, indecisive stage that had all the markings of a stand-off.

Then there appeared the man who was to be the scourge of the Japanese Air Force in its latterly days in the South Pacific. He and his squadron had the answer to Kahili. It was a new tactic in the theater—pure aggression in the Marine frontal assault sense. The tactic: the fighter sweep. The man: Maj Gregory Boyington, a rugged, boisterous veteran of Gen Chennault's Flying Tigers in China and Burma.

At 31, Boyington looked and fought like a battle-wise bulldog. He had left the Marine Corps to join the Flying Tigers. Flying the shark-nosed P-40s, he shot down six planes, then resigned to rejoin the Corps when America declared war. His first tour with VMF 121 in the Solomons had been a washout. He didn't see any enemy planes.

In August, when Marine air resources were running low, Boyington, at his own loud insistence, was given a collection of pool pilots—some of them remnants of other units, but mainly green replacements, to form into a squadron. The normal training period for this exacting business was from six months to a year. Boyington, whose off-hour antics made many a general and colonel boil, did it in six weeks.

Though the other Marine fighter squadrons were holding their own, Boyington and his Black Sheep* hit the combat area with the tumult of a small hurricane.

On his first mission, Boyington shot down five planes while escorting bombers to Ballale. The Black Sheep followed his lead and in one month destroyed 57 enemy planes in combat, with two losses of their own for a better than 25 to 1 average. In that time, their clowning on the deck and cunning in the air captured the imagination of the Air Arm from Espiritu up to Munda and Boyington was on his way to becoming a living legend.

At 0400 one morning, Boyington was routed out of his bunk by an operations officer wanting

*Variously called "Pappy and his Clowns," or "Boyington's Bastards," the squadron finally compromised on calling themselves "The Black Sheep" though their insignia retained the black bar of bastardy across its shield.

four volunteers to strafe Kahili. The squadron's tour was officially over, but Boyington and three wingmen went on the mission. He lost the other planes in a storm front and went after Kahili alone. He was too wide on his first pass and in the half-light, circled and came in again at 30 feet. This time he blew up three bombers. Pulling out, he swung his Corsair over nearby Tonolei Harbor, found a destroyer and strafed it thoroughly. Finding he still had ammunition left, he hunted down the coast of Choiseul until he found an enemy troop barge and sank it.

When he returned to Munda, Boyington was certain that the answer to Kahili was the fighter sweep. It would be a costly gamble, one which called for incessant patrols over Kahili, fighting one battle after another until the Japanese decided that their losses were too great to continue an inelastic defense. If the enemy refused to give way, the Allied fighter squadrons might be so depleted that it would be months before they could again build up to full offensive strength.

Boyington and five of his Black Sheep went after Kahili several days later when their bombers failed to rendezvous because of weather. Fifty Zeros rose to meet them and in the dogfight, Boyington shot down three in 30 seconds.

That day, he received permission to start the fighter sweeps. Twelve of the squadron went up to try their luck, but the canny Japanese refused to take off. Boyngton and his wingmen circled Kahili for 20 minutes yelling ancestral imprecations and challenges over their radios. Twenty enemy fighters took the bait and climbed up. The Corsairs shot down 12 without loss.

On another sweep, they prodded the enemy into a fury with their radioed insults and 50 Zeros were suckered into combat. VMF 221 shot down 16 while the Black Sheep got 12. Boyington led a few more sweeps. His personal score rose to 20 planes, six of which dated back to China and the AVG. In late October, the Black Sheep squadron went south for a rest. Behind them were Kahili and enemy air power in the Solomons. Both had their backs broken.

Where the fighters left off, the day and night bombers took over and ground Kahili and its satellite bases into coral dust as the date for the invasion of Bougainville neared. The Munda and Barakoma planes averaged four bombing attacks a day against the Kahili network during the weeks prior to the invasion of Bougainville. These shuttle raids often mounted as many as 100 planes in an attack.

THROUGHOUT OCTOBER, mopping-up and expansion were at a fever pitch in the Central Solomons. New Zealand troops, which had taken over from the Army, concluded their ground actions at Vella Lavella on October 9. The enemy evacuated 400 of the surviving defenders by night to save them from a last-ditch trap.

Vila field on Kolombangara was occupied without firing a shot on October 10. Again enemy evacuation efforts were successful. This time more than 10,000 troops on Kolombangara were moved out by night barge traffic and destroyer-transports. In each instance, however, the enemy suffered losses in night naval actions and from bombing and strafing.

Marine squadrons moved up from the burgeoning base at Munda. Two fighter units began operations on October 17 from Barakoma field on Vella Lavella's southeastern coast. MAG 14 took over the small air base on Ondonga island, a few miles up the New Georgia coast from Munda, which served Army, Navy, and New Zealand planes. Col William O. Brice* was named Air Commander, Ondonga. The headquarters of ComAirSols moved from Guadalcanal to Munda on October 20 and Henderson Field became a rear base after 14 months of intensive operation.

Two more intermediate landings under heavy air cover closed the gap. New Zealand and Marine ground troops landed in the Treasury Island group on October 27. Personnel of a forward echelon of the First Wind under Maj Byron V. Leary landed with the assault forces to establish a radar station and a fighter command. No serious opposition was encountered and both Mono and Stirling islands were occupied. Work was begun immediately on an airfield at Stirling.

Then, as the final hours of October ticked off, the Allied war machine in the South Pacific rolled ponderously into a new invasion action.

They called it . . . "Cherry Blossom."

to be continued

*Brice had commanded the Navy and Marine Corps Air Center at Auckland, New Zealand, before taking over MAG 14.

Greater Coordination of Supporting Fires

By Capt Thomas N. Greene

A MARINE ARTILLERYMAN SUFFERING FROM an idea usually flies to the bosom of the Army's *Field Artillery Journal*, where he feels the concept of an improved bayonet lug for the Graphical Firing Table, M12, will be warmly received. He knows that the long-suffering infantryman has already politely dozed through technical lectures on the *capabilities* and *limitations* of artillery, naval gunfire, close air support, rockets, recoilless weapons, and psychological warfare units. This article offers a plan to help that infantryman.

At the end of a thorough course of indoctrination, the normal infantry commander confronted by an enemy strong point will still react as follows: "Why don't some of you people shoot at that right away, and what happened to that outfit on the right flank?" He may be preoccupied with these problems in inverse order.

This situation, however, is preferable to the possible horrors resulting from otherwise good infantrymen deciding after one of these lectures that they are experts in the supporting arms. I have in mind one colonel who at a divisional inspection pounced upon an artillery corporal and asked for the definition of an orienting line. The corporal replied correctly that it was a line of known direction materialized upon the ground to assist in aiming the howitzers. The colonel then asked how long it was. This was a more pleasant experience, even for the corporal, than the occasion in combat when another colonel protested long and bitterly because a lieutenant stopped him in the middle of adjusting artillery upon his own center company, which had appeared from about one thousand yards to the rear to have slant eyes.

These examples are cited here only to advance the thesis that twenty years of peacetime training will not be enough to make every infantry officer acquainted with the varied necromancy involved in manipulating the assorted supporting arms. The infantry commander needs advice, just as if he were filling out the long form of his income tax.

It has been established that the way to provide advice to the harried infantry commander is to send up a liaison officer, and, consequently, each supporting unit sends up a team, causing the command post to resemble a cross between a parking lot and a camp for displaced persons. These liaison officers may be such personages as the artillery battalion commander or executive officer, or then again they may be officers whose presence is not earnestly desired either farther forward or farther back. In any case, the infantry commander needs to be an expert parliamentarian if he is to keep track of the debate when he asks for advice.

Infantry advances by fire and movement and defends by fire-power alone when possible. It is a demonstrable fact that there were too many occasions in the recent war when the various types of fire were not coordinated with the movement, or with each other. In fact, there were times when it seemed that some of the supporting arms were fighting a private war of their own. The fault lay in the system of liaison and in the attitude of some infantrymen. This attitude, however, was in most cases a direct result of the failures of liaison. The question is, what can be done to improve the system of liaison to give the infantry commander the use and control of all available firepower?

The Army has recently greatly increased the firepower of its divisions, which it says will

Air, artillery, and naval gunfire can be made more efficient by coordinating liaison between the supporting arms and the supported infantry group. The Marine Corps can get better liaison by unifying the control of its supporting arms

now not only be amphibious, but triphibious. A Marine division obtains its heavy firepower in a different manner than does an Army division. Naval gunfire and close air support are not as prominent in the Army manuals as they are in the amphibious warfare doctrines of the naval service. We can make better use of our present supporting arms, and this problem deserves as much attention from the infantryman as from any other marine.

The solution lies in two steps:

1) Unify all of the supporting arms; and
2) Merge the new supporting arm with the supported infantry unit to the greatest degree possible.

LET US CONSIDER the first step from the viewpoint of three of the saddest individuals who ever toted wire and radio up a beach. An artillery forward observer receives quite a bit of education before he is allowed to spring over the gunwales of an amphtrac with a map board underneath his arm. Then for the first four to ten hours of the landing he is expected to observe, but do nothing until the artillery arrives ashore. He is allowed to duck, and to dig in, but he can hardly send his skilled radio and wire-men out in the assault since he knows that he won't be able to get replacements for them when the shore party is released.

His situation, and that of his six to eight men, is more enviable than that of the naval gunfire spotter. This worthy receives the same expensive training in artillery as the forward observer. During those first hours after the landing he may be very busy and very valuable. After that time, however, he is forbidden by a necessary and wise doctrine from firing upon targets which can be engaged by artillery, and artillery can engage almost any target.

Nevertheless, he and his party are envied by the air liaison party which, after the artillery is ashore, is prohibited from attacking any target which can be engaged by *either* artillery or naval gunfire. Eventually, a target may turn up for him, but in the meantime, he is not expected to risk highly trained men in such pursuits as attacking machine gun positions with fixed bayonets.

The company commander has other problems to consider besides those listed above. As far as he is concerned, why don't they give him one man and one party up there who can give him artillery, naval gunfire, or air strikes when he wants them? Well, why not? The techniques of shooting artillery and naval gunfire vary but slightly. The only problem is communications and organization. The naval gunfire spotters who worked on Tarawa were artillery officers converted by a simple one-week school. The same officer can be qualified to designate a target which requires an air strike. Remember that both air strikes and naval gunfire missions are under constant surveillance from higher echelons. The problem of major importance is how to get a forward observer to each infantry company. An artillery battery rates two forward observer parties, although it supports an infantry battalion whose three companies may be engaged simultaneously. This artillery battery must also maintain observation posts which may not be in the extreme forward area, and there is always the problem of replacements, not only for officers, but for communications personnel. Add the naval gunfire spotter's party to the artillery battery and there are, forthwith, not only three FO parties, but three naval gunfire parties, all in one. With a little training and a flexible communications system, these three parties can also handle the forward end of air strikes.

CAPT THOMAS N. GREENE *is an artilleryman who has "fired about as much destroyer ammunition as artillery in combat." After being commissioned in 1942 he joined the 1st Bn, 10th Marines, and was assigned as NGF spotter for the Tarawa operation. He was a forward observer on Saipan, a reconnaissance officer on Tinian, and later served as S-3 and liaison officer. A graduate of Michigan State College and a former reporter for United Press, he is now stationed in Washington with the Division of Public Information.*

Moving up to the infantry battalion CP, we find a weird and wonderful situation. The artillery liaison officer is delegated the responsibility of coordinating all three supporting arms. To do this, he needs rank, as well as experience and training, so that we find the artillery battery commander sitting here, several miles from the battery which he commands. As assistant he needs a non-com capable of taking his place in emergency and of maintaining a complete situation map. He also needs expert communications men. As battery commander, he can get them, but only by plundering the forward observer parties or the battery fire chart under the present T/O. Also present are a NGF liaison officer with party and an air liaison party, adding to the traffic in the CP.

One officer, properly trained, and an adequate party could handle the whole job and do it with less men than are now employed by three parties.

THE SAME ANOMALOUS STATUS obtains for the liaison officers at the infantry regimental CP. A direct support artillery battalion is authorized a liaison officer—a captain—whose duty it is to coordinate all supporting arms, advise a full colonel, gather intelligence information and act as the right arm of his own battalion commander and S-3. Since this is obviously a large assignment, it is now approved procedure to assign the artillery battalion executive officer to this job. In the event of a displacement of the battalion, he is expected to commute back several miles to assume his normal duties. At times the battalion commander comes up for liaison, but his occasional presence does not obviate the need for an officer who is in continuous touch with the activities of all supporting arms.

On the division level an unofficial combination of all supporting arms has taken place. Artillery, naval gunfire, and close air support are all coordinated by the *target information center*,* which allows the division commander an integrated control of his long range weapons. This control, unfortunately, can only be as good as the liaison in the lower echelons. Also, if the TIC is to function effectively, it requires the services of the artillery regimental commander, who is at the same time responsible for the shooting by his regiment, a phase which is being conducted at the regimental fire direction center, several thousand yards away. Another interesting feature is that both the NGF and air liaison officers at infantry regiment report directly to the division TIC, while the artillery liaison officer who "coordinates" them is supposed to send his messages to the TIC via the artillery battalion and regimental FDCs.

THIS ENTIRE SYSTEM grew gradually during the war, as a result of vital needs which it did succeed in filling. It does, however, contain duplication of functions and lost motion. The joint assault signal companies, containing both naval and Marine personnel, evolved from a lack of trained Marine personnel. ASCO, the successor of JASCO, can now be absorbed completely by the artillery regiment of a division, increasing liaison efficiency and lowering personnel requirements.

The artillery already has been given the responsibility for coordinating the night use of such other supporting arms as tanks and armored amphtracs for harassing and interdiction fires. Rockets have been added and the possibility of adding two more howitzers to each battery, a practice recently adopted by the Army, has been discussed for some time. In view of these new responsibilities proper liaison is more than ever essential, while it becomes even less feasible to detach artillery commanders or execs from their units during combat.

Since expert liaison officers must be provided, they can well be trained, and their parties equipped, to perform the functions of the ASCO liaison parties.

BEFORE CONSIDERING the simple mechanics by which unification of the supporting arms can be accomplished, it would be well to examine the problem of greater control by the infantry commander who is trying to coordinate his fire and movement. The human element enters here, and the infantry commander will naturally lean more heavily upon the officers whom he knows best. In time of peace he can meet his liaison officer socially, but these opportunities are more limited in time of war. However, a good liaison officer actually fills the positions of assistant S-3 and S-2, coordinating the activities and observations of the support group. During training periods he should serve as a part-time infantry staff member, rather than showing up only when infantry-support group maneuvers are scheduled. The members of his party should also spend extended periods of time with the infantry headquarters personnel,

*Also designated the fire support coordination center or FSCC. See *Coordination of Supporting Fires* in the October 1946 GAZETTE for current supporting fires doctrine.

a practice which paid dividends for JASCO personnel who always had a slight edge over the artillery parties in the supply department because of intense personal liaison in the very lowest echelons, as for example, between one of the radiomen and the supply sergeant's assistant.

Speaking of the lower echelons, the forward observer who can double as a naval gunfire or air strike spotter is also essentially a liaison officer from the support group to the company commander. The closeness of this liaison too often depends upon the situation and the terrain, rather than upon an SOP or even a field telephone set. There are many training days which forward observer teams could well spend with the infantry company to mutual advantage. If nothing else, it might end the situation of having a company mortar observer cover one part of the company front while an artillery observer covers another. Actually, all observation parties should be prepared to fire either mortars or artillery as needed. Again, the only requirements here are an SOP, a little training, and a telephone system.

How, then, to set up the mechanics of a unified support group? Here is a plan:

Divisional Level

Liaison Officer, Assistant G-3—One lieutenant colonel trained in all supporting weapons. His duties are to operate the TIC as an adjunct of the G-3 section. This leaves the artillery regimental commander free to visit the TIC, the regimental FDC, or his battalions as needed.

Assistant Liaison Officers—One naval gunfire expert of field rank and one aviation support expert of field rank.

Personnel—As needed to operate TIC target chart and communications.

Note: In this echelon, the major change is abolishing ASCO and placing the above personnel in artillery regiment headquarters, with the understanding that a major part of their training time will be spent with division headquarters. Because of their vital nature, it is desirable to maintain the TIC and the regimental FDC as separate establishments.

Regimental Level

Liaison Officer, Assistant S-3—One major trained in all supporting weapons to come from the direct support artillery battalion. (To be added to T/O.)

Assistant Liaison Officer—One captain, trained as above, as well as in communications. (Now in T/O.)

Personnel—As needed to maintain communications and keep support situation map. Radios should be provided for air, naval gunfire, and artillery communication to planes, ships, or howitzer battalions. A switchboard should also be maintained paralleling the infantry wire and allowing communication among all observers with the regiment. This wire should be serviced forward to the infantry battalion command posts. The assistant liaison officer should be qualified to act as assistant artillery battalion communications officer, maintaining all support lines forward and providing replenishments of wire, batteries, etc., in conjunction with the infantry communications officer. (Add personnel to T/O.)

Battalion Level

Liaison Officer—One captain, trained in all support arms, to be provided by the artillery battery in direct support. (To be added to T/O.)

Personnel—Only one radio need be maintained for communication with the regimental liaison officer. Three wire teams are needed to service wire forward to company CPs. (Add personnel to T/O.)

Company Level

Forward Observer—One officer with each company capable of spotting artillery, naval gunfire, air strikes, rockets, or mortars. (Two now in T/O; add one.)

Personnel—Same as at present. (Add one team per battery.)

The purpose of this plan is to give the infantry commander a consolidated, smoothly working support section to put the "fire" into fire and movement. Unification of all long-range supporting arms into what amounts to a support regiment also provides for the integration of weapons yet to be developed into the division framework, and into the framework of the RCT. No matter what weapons are developed, there will be supporting arms until the day each infantryman can be equipped with Buck Rogers' disintegrator Ray Gun, Mark I, for the simple reason that crew-served weapons of any type require their own ammunition trains, communications, observers, and, above all, liaison.

The Marine Corps can get better liaison by unifying the control of its supporting arms—and better liaison means better firepower, ready for the infantry commander's use. US MC

A MILITARY DIGEST

Airborne Armies of the Future

By MajGen James M. Gavin, USA

THE FUTURE OF OUR ARMED FORCES IS IN the air. All the fighting men and everything they need to fight with in the future and live on as they fight must be capable of movement by air.

To my mind, we professional soldiers are traditionally laggard in facing and adopting changes, especially radical changes that upset proven methods and the ways in which we have been doing things for years past.

The latitude and power we shall be able to employ in conducting a possible future war can be accurately measured in terms of the future development of our arms, transportation, and equipment. To begin with, I am assuming that there will be a definite need for troops to fight upon the ground. Despite the opinions of advocates of victory solely through air power, I believe that any bombing or guided missile attack will need a human follow-up force to exploit the disorganization and chaos that future bomb and missile attacks will cause. The particularly lucrative targets for attacking airborne troops will be launching sites for guided missiles, sources of strategic materials used in making atomic bombs and warheads, military fabrication plants where bombs and warheads are made, politically sensitive areas either before or after bomb or missile attack, airfields and take off areas for enemy airborne troops, and terrain of particular tactical value such as groups of air fields about which an airhead may be developed.

In view of the traditionally non-aggressive role of our country in international affairs I think it can be assumed, the foregoing targets would be targets for the airborne troops of the enemy. Of course, if adequate ground forces are within striking distance we can make the counterattack with or without airborne assistance. But if the strategic and tactical dispersion of our forces is as it should be, troops could be marshalled effectively in our own territory against a major enemy force only by the employment of airplanes.

The first problem in the employment of airborne units is that of transferring from a high speed airplane to the ground, in the shortest time possible, men and means in condition and quantity to fight successfully.

The Parachute

AT THE END OF WORLD WAR II the parachute in use by airborne units was suitable for individual troopers with hand weapons, and food and ammunition for several days fighting. Dropped from the same plane in equipment containers were the supporting mortars, heavy machine guns, recoilless rifles, bazookas, 75mm howitzers, etc., necessary to engage on even terms anything from a foot soldier to a heavy tank.

Individual troopers could be on the ground ready to fight in less than one minute from the time they left the plane, and a well trained airborne battalion could begin a coordinated fight in about twenty minutes after it landed.

Present-day troop carrier aircraft fly from 100 to 120 miles per hour during jumps and spread their loads of 36 to 44 jumpers and their equipment over a distance of 800 to 1000 yards. The unit dropped is usually a platoon. The distribution over such a distance creates a problem for the platoon leader which at once becomes a very serious one if the landing is immediately opposed in strength. The solution may be in designing aircraft with multiple exits.

Gliders

NOWADAYS MOST AIRBORNE COMMANDERS look upon the parachute as the vehicle for the assault infantry and the glider as the vehicle for heavy guns, radios, and so on, that can be brought only with their use.

Three critical characteristics of gliders determine suitability for military use—their weight carrying capacity, their interior and door dimensions, and their landing speed. The most successful gliders of World War II were the USCG-4 and the British Horsa. The CG-4 could carry up to 3750 pounds. The British Horsa could carry up to 6700 pounds.

The present glider development program is directed toward improving conventional type

INFANTRY JOURNAL, December-January, 1946-47.

gliders with the lessons in mind that were learned from the war. Under present conditions of ground combat the backbone of the defense of an airhead is its antitank defense. Consequently the greatest contribution gliders can make to airborne tactics is to bring to the battlefield antitank defensive means, anti-personnel artillery, reconnaissance and security vehicles, and airfield construction engineers, in that order of priority. With this in mind gliders are being developed which will carry four and eight tons.

Transport Planes

AIR TRANSPORTS for military purposes fall into two classes; strategic airplanes of the Stratocruiser and Constitution types, and tactical airplanes of the C-47 and C-46 types. The larger planes are now being produced and flown by civil aviation.

There is a distinct parallel between the military uses of aircraft and seacraft. Larger ocean-going vessels have lent themselves well to the strategic movement of troops. Tactical vessels, however, had to be manufactured for a particular combat use. For some years we tried to adapt ordinary seacraft to amphibious operations, work for which they were never designed. We seem to be doing the same thing in aircraft today. Commercial airplanes have fought our tactical battles so far despite their limitations. But the future of airborne operations requires the development of tactical aircraft embodying certain combat essentials. It is imperative that we make steady progress in such planes if we are to maintain any effective airborne forces.

Critical Factors in Airborne Operations

EXPERIENCE HAS SHOWN that there are several factors which are critical when we are endeavoring to apply the means of conducting airborne warfare. These are the number of aircraft required, the number of airfields required for take off, the air space that we must dominate, and the range of our aircraft.

The range of aircraft has always determined where we could go, and to some extent what we could do. Range varies inversely with the pay load. It now appears that the range of troop carrier tactical aircraft will approach 2000 miles by 1947 or 1948. This could be the maximum range increase for tactical aircraft if the development of air power should follow in form the development of sea power. The larger strategic aircraft will ultimately become global planes of great carrying capacity and high speed, whereas tactical planes will be designed, armed, and built for the specific mission of airborne combat in close proximity with the enemy.

Airborne Attack

ANY AIRBORNE FORCE with an offensive mission must perform the following tactical steps. First it must land in hostile territory where it must establish itself firmly, securing itself against surprise and directly aimed ground fire. Next it must reinforce and resupply itself. Finally, it must move in the planned direction the force necessary to accomplish its specified mission. These steps constitute the establishment of an airhead just as amphibious means in a similar manner establish a beachhead.

The old saw that a chain is no stronger than its weakest link applies to airborne as to all other military organizations. Clearly, if the subordinate units do not have the means, ability, and skill to fight well the airhead will be short-lived. Small-unit training emphasizes the following which are considered characteristically airborne:

Speed and a rapid initiation of combat immediately upon landing.

Retention of the initiative by all individuals and units from the moment of landing until the objective is seized or the mission accomplished.

Recognition of isolation as a normal battlefield condition.

Readiness of all units to attack or defend in any direction at any time.

Improvisation of weapons and means, and the use of enemy weapons and defensive works to our own advantage.

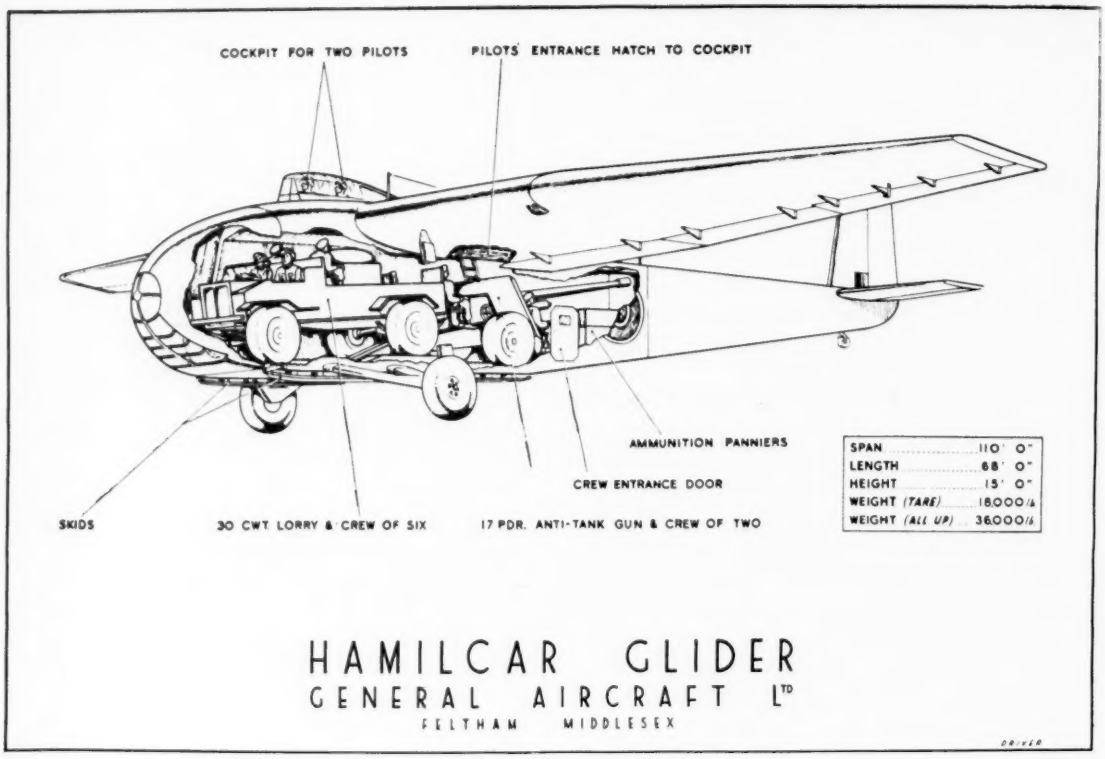
Extended intervals and distances in the defense with a "screening and counterattack" type of defense.

Tough, trained, properly equipped troops, imbued with courage and confidence in themselves, given sensible leadership can accomplish any of the airborne missions I have outlined.

We have barely begun to solve the problems of airborne transport and equipment. When we do solve these problems we will be able to make a more intelligent approach to the problems of arms and organization of airborne units.

Antiairborne Defense

The basis of any effective antiairborne defense is knowledge of enemy airborne troops and their equipment and capabilities. Well-illustrated and well-written publications describing the enemy airborne troops in detail must be



distributed to all troops and civilians in likely operational areas.

The defending commander must analyze his sector to determine the likely airborne targets and probable landing areas. On the basis of this evaluation he makes his first passive defensive measures.

Thoroughness in preparation for a good passive defense may be a substitute for troops in the first critical minute following the hostile landings.

On the combined basis of the enemy's capabilities and probable behavior and the extent of passive defensive measures, the defending commander then prepares a plan for the active defense of his sector. Troops must be posted at critical objectives. These troops constitute the reconnaissance and security screen. They give the earliest warnings of the location and weight of the attack. They cover the arrival of larger defense forces by attacking, impeding and blocking the invading airborne troops.

These garrisons must be backed by larger mobile antiairborne forces especially trained and equipped for the role they are to fill. Armored units are particularly valuable against airborne troops. Once the hostile forces land the defending forces handle them in the following sequence: locate, isolate, surround, and destroy.

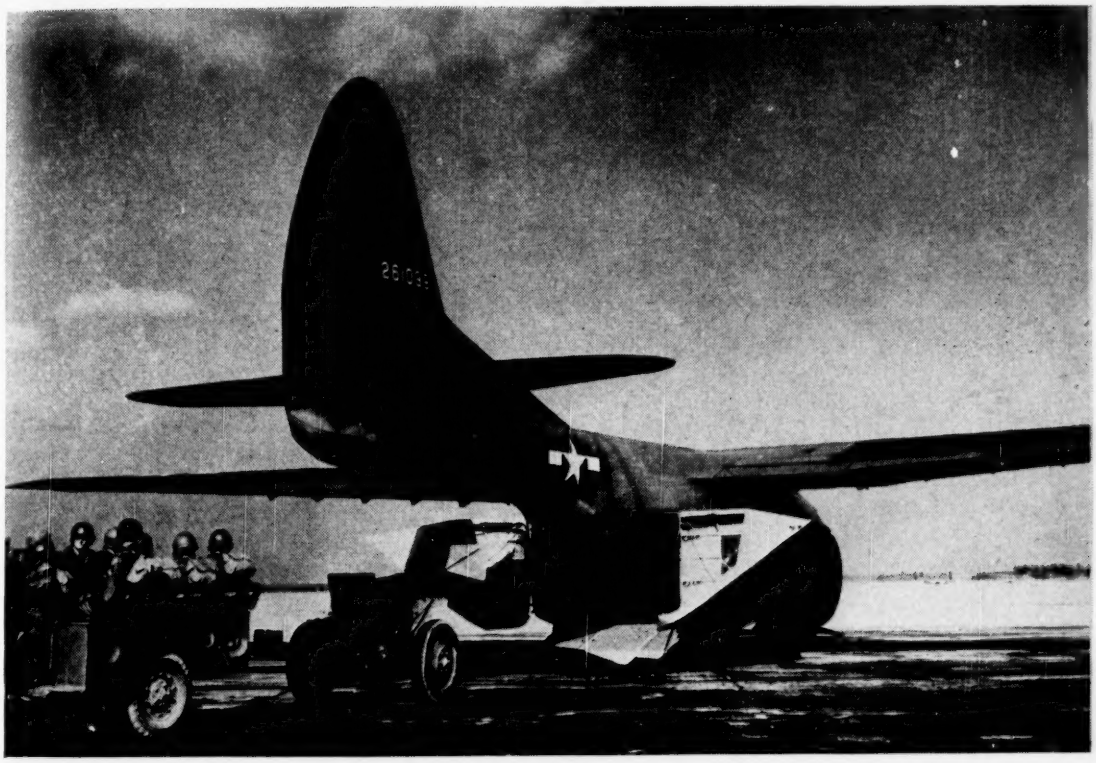
The theory followed by some antiairborne defensive commanders in World War II of always attacking every airborne landing at once with all means available is not sound. The main force may attack later but initially in most cases the reconnaissance or security force should make every man and weapon count in locating and determining the weight of the attacking force. The attacking force can then be handled as the next higher commander considers appropriate to the accomplishment of his mission.

Finally, all plans must be kept up to date. Rapid strides are being made in the development of airborne equipment and the capabilities of airborne units are improving monthly. Hence to be of any value plans must be revised and rehearsed frequently.

Organization and Equipment

A MILITARY ORGANIZATION must be functional. The principle underlying the creation of any organization, combat or service, is that its composition and structure be suitable for the specific type of work for which it is created.

The tactical situations encountered in airborne and antiairborne operations are so many that it would be impracticable to create a special



Although this CG-10 disgorges nine men, a weapons carrier, and a 105mm howitzer, future gliders and transport planes must be capable of carrying greater loads.

unit for the solution of each. The solution to most of them lies in the direct application of the modern weapons with which combat organizations are now equipped. But as the magnitude of the tactical situations increases, there is a consequent increase in the size of the units involved and it soon becomes apparent that the structure of the units has a direct bearing on their ability to solve their tactical problems successfully. In the infantry, artillery, and engineer battalion, where there is little need for any different organization than those units have in the division, the smallest combat unit organized, armed and equipped to fight on its own, we find the first direct effects of structural organization. Let us look into the background of the present combat infantry division, its composition, and structure, to see the reasons for that structure. And with this as our basis, let us then determine the requirements of our combat divisions of the future.

World War II Triangular Division

THE TRIANGULAR DIVISION of World War II (Figure 8) was well suited for the time and equipment of that war. Light, with 14,000 men, it was highly mobile. For a war that often had to be fought at high speed, and with definite direction, it served its purpose well. In some situations however the triangular division began to show deficiencies that we should now recognize and appreciate.

The triangular organization was designed so that two of its parts could be put against the known enemy and the third held in reserve. But if the direction of the enemy is not known and cannot be foreseen, the triangular organization is unsuitable and inadequate to meet the requirements of a 360-degree defense.

Quadrilateral Division of the Future

THE DIVISION OF THE FUTURE—and this division must be airborne or adaptable to air transport—must be thoroughly flexible. It must be readily able to fight in any direction in a defense, and to ward off blows from any direction while attacking. A quadrilateral division (Figure 9) is designed with these prerequisites in mind.

Each of its four infantry regiments is directly under command of the division commander.

Although a C-46 drops parapacks of supplies, the men also must resupply themselves with captured materials. This drop is at Normandy.

There are two combat commands, similar to those of our armored divisions during World War II, provided to control and make use of any forces assigned to them by the division commander for and during combat. He can place any two regiments under each combat command which means that he can fight in any direction. He can as readily place more than two under a single combat command if the situation seems to require it.

The artillery of the quadrilateral division would be trained and fought under the direction of the commanding general of the divisional artillery. It consists of four light battalions and one medium general support battalion.

Paratrooper about to jump with 30 pound radar set used as a ground beacon for troop carrier planes on dropping area.

The four-way division provides both flexibility in its ability to fight in any direction in the defense as well as depth with corresponding security in the attack. The division must, however, be kept light and mobile. The infantry regiments should not exceed 2,400 infantrymen. There is definite need for a lighter weight semi-automatic weapon than the M-1 rifle, and for rockets, recoilless artillery, and weapons of the bazooka and *panzerfaust* type to replace the present heavy-type weapons. It is also imperative that radios be built with greater range and lighter weight for airborne use. With the dispersion that airborne units are sure to have in the future dependable communications are of the utmost importance.

The division must be kept a fighting division. Such outfits as mobile showers, laundry units, refrigeration units, and the like do not belong with an assault division. These can be attached when needed and when combat conditions permit. Rations must be light and in concentrated form. And certainly as far as the assault divisions are concerned airborne divisions must learn to make the utmost use of all captured enemy supplies. At the same time any large-scale airborne invasion must be supported by a well prepared supply plan and implemented by service units and equipment adequate to permit the invading army or armies to exist indefinitely by air in the heart of hostile territory.

Airport for Service Elements

LARGE-SCALE AIRBORNE FORCES, if they are to succeed, must unquestionably be supported by adequate service forces. In order for a large airborne force to exist as a combat entity, it is necessary that it capture and construct a major airport suitable for the reception of heavy air transport within a few weeks of the initial landings. Wherever possible the initial airborne attack should be made with this important item in mind, exactly as the necessity for a major seaport must be considered in preparing plans for an amphibious invasion. Once the initial landings are made, there should be at least one airfield suitable for handling air transports of the troop-carrier type (five to ten tons payload) per division.

In ground combat a division is assigned

Part of "Operation Uppercut," C-47s of the 12th USAAF Troop Carrier Air Division drop paratroopers and supplies over the French coast between Nice and Marseilles.

whenever possible at least one good road for a main supply road. In the same manner an airborne division should be assigned an airfield or an airfield site. Engineers, trained and equipped in airfield construction, should be among the first to land.

As the airhead expands and additional service troops begin to arrive and become established, airborne combat divisions must be freed of service unit functions.

If the combat divisions accomplish their initial missions and properly organized and equipped service units are by then available to back them up, in a short time the airborne army should be well established and prepared to make a full exploitation of his presence in enemy territory.

In the final analysis an airborne invasion will succeed or fail depending upon the adequacy of the supply program supporting it. The army that solves these problems will be in the army that wins. Such an army should be able to move to any area on the globe on short notice, and what is more important, fight to a winning decision when it gets there.

The Use of Airborne Troops in the Future

THE NATION or group of nations that controls the air will control the peace. This means being able to transport airborne troops to any spot on the globe. It means being able to deliver these troops, trained and equipped and capable of imposing their will on any potential or actual belligerent.

The development of air power and the improvement in the capabilities of aircraft establish clearly their global character. Guided missiles, which should properly be considered airpower, will soon be spanning the globe. Combat designed troop-carrier aircraft must be developed

British paratroopers assemble folding motorcycles ("Wellbikes"). Light and speedy (40-45 mph), they drive on rough terrain, getting 180 miles per gallon of gasoline.

and produced to fit into their niche in the airpower and aircraft picture. When this is accomplished trained troop-carrier-airborne teams will be capable of striking a decisive blow from any point to any point on earth.

The use, or threatened use, of atomic weapons has had one immediate effect on our nation's strategic and tactical thinking—the realization that dispersion must govern all operations in the future. Never again may troops concentrate as they have in the past.

All-Purpose Airborne Units

AIRBORNE TROOPS OF THE FUTURE will have to be capable of performing every type of ground operation now known. Attacking armies will concentrate in flight from dispersed airfields. They will be preceded by a missile barrage against hostile airbases, troops, and missile bases, and they will close on their objectives in accordance with a planned schedule. Ground control will be acomplished through improved communications. When the strength within an airhead permits, a vigorous offense will be undertaken to exploit the landings and make possible the accomplishment of the airborne mission. Thus the fight will be carried to the enemy in his own territory and a decision gained. No war can be won otherwise.

At the present time, and as far as we can see into the future, the accuracy of missiles will be directly related to their range. There will be a premium therefore on denying any hostile power access to bases from which it could launch accurately guided missiles against American industries. It is likely that the launching equipment will be air transportable, hence it is entirely possible that bases could be established and a missile attack launched against our vital production system before we could do much about it. If this happened we too could employ missiles but a more certain method would be to attack

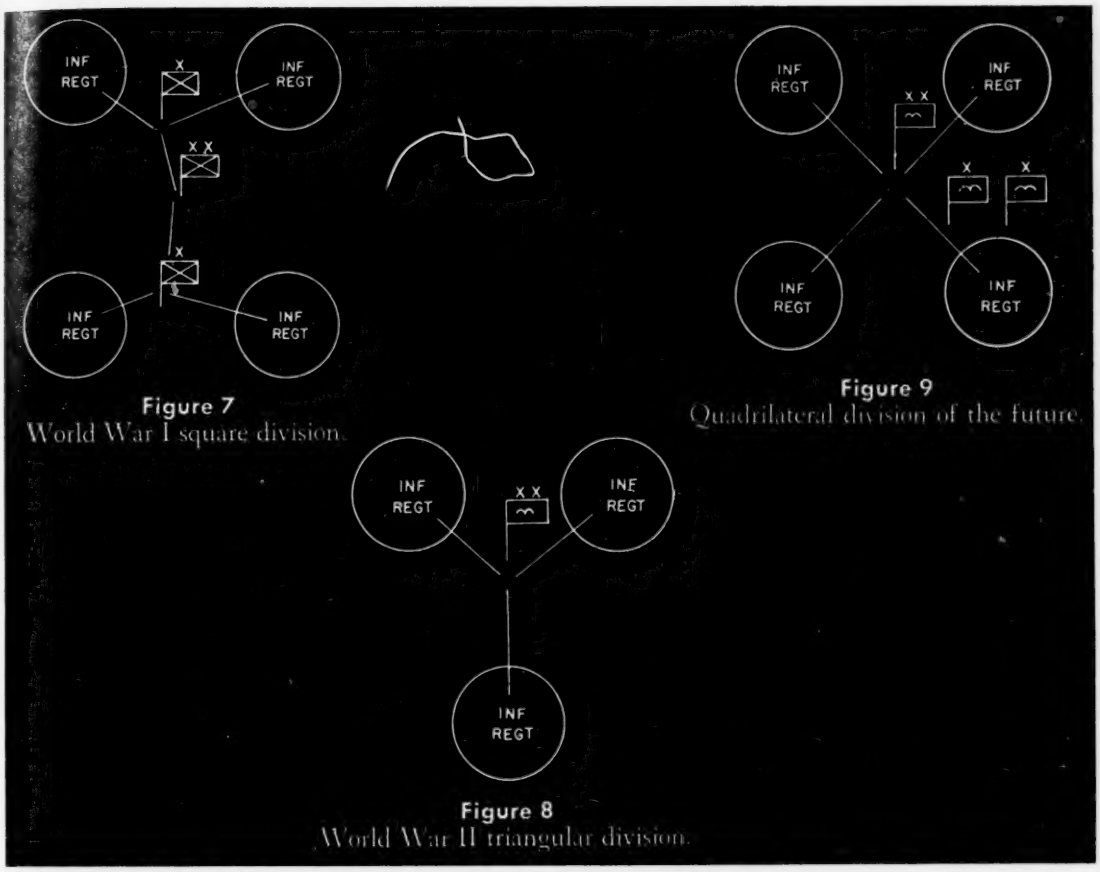


Figure 7
World War I square division.

Figure 9
Quadrilateral division of the future.

Figure 8
World War II triangular division.

and destroy the enemy's launching sites with our own airborne troops. What was Pearl Harbor in 1941 followed in six months by an amphibious effort at Midway will, in the future, be a missile barrage followed in six minutes or six hours by an airborne attack. To even begin to cope with such a tactical situation, adequate, trained,and properly equipped, troop-carrier and airborne forces must be available.

Providing Protection Against Airborne Attack

THE ESSENTIALS OF OUR NATIONAL SECURITY are our industries and factories, our armed forces, and our airfields. These can be given limited protection from modern weapons through dispersion, and, in the case of the factories, earthen protection by being placed well underground. These measures however will not protect them from airborne attack or accurate missile attack. Protection from these can only be accomplished by denying an actual or potential enemy, the airbase or missile sites he would want to use.

Through the use of airborne troops our means of defense can be concentrated at the decisive time and place to provide us with the necessary margin of power for security.

Best Hope for the Future

THE NATION that in the future has the best trained and equipped airborne forces has the best chance of survival. Indeed, more than this, only by having such security forces can any nation survive. For as long as these means of waging modern war are available to us they are available to aggressor nations. And modern airborne forces of aggressor nations cannot be fought successfully with the weapons that fought past wars. Not if they are to be engaged at at parity and beaten.

Airborne troops are our best national security and the world's most promising hope for international security.

The knowledge of the existence of a well trained airborne army, capable of moving anywhere on the globe on short notice, available to an international security body such as the United Nations, is our best guarantee of lasting peace. And the nation or nations that control the air will control the peace. **US MC**

Big Bertha—World War II

By Col F. B. Porter, USA

DURING THE WAR WHICH HAS JUST ENDED, the German Army, under the direction of Hitler, moved in a mad race to develop superweapons of all types. This work was done initially at the huge Krupp works at Essen, with final test and development work being done at the German proving ground at Hillersleben, Germany.

Among those developed can be listed the great guns which fired into England from the French Channel ports and the two supercannon which were used against the Russian fortifications at Stalingrad and Sevastopol. While the former were weapons of calibers formerly known to other nations, the latter were so immeasurably great that it taxed the imagination to conceive such weapons. Never before in history had any one built a weapon of such power and destructiveness.

Ordnance engineers who have struggled with the problems of construction, safety factor, means of transport, powder granulation, and pressures on smaller weapons, must concede that the Germans achieved success on these giants.

The following history, obtained from a German officer inmate of Prisoner of War Enclosure No. 24 in Bavaria, is of interest. He had served as an observer in the Crimea with one of these weapons, and saw the destruction of the fortifications at Sevastopol which was accomplished by the gun. His statement in substance was as follows:

In 1939, following the defeat of Poland, it became evident to the Fuehrer that an attack on Russia would be necessary within the next two years and that the huge Russian fortifications along the Dnieper River and in the Crimea would probably have to be reduced. A study of the large weapons then on hand in the German Army showed none of sufficient power to penetrate an earth cap of ten feet and thereafter further penetrate at least ten feet of reenforced concrete.

Plans and studies for an 84cm gun had been made at the Krupp plant many years before. These plans were now put into execution, and two of the huge weapons were produced with an additional tube for each. Both weapons were identical railway guns and both were named. Number one gun was called "Dora" after the wife of the engineer who built it, and the other was named "Gustav Geshutz" for one of the engineers at the Krupp works.

During the fall of 1942, both weapons were transported to the Russian theater, "Dora" being sent to Stalingrad and "Gustav Geshutz" to the Crimea. The exact success obtained by the former is only a matter of conjecture, but the latter weapon succeeded in destroying all the main forts at Sevastopol. Adjustment of fire on fortifications in the Crimea was made by combined air and ground observation from ranges of approximately ten miles. This was followed by a round fired for effect, and this by an infantry-artillery assault.

"Gustav Geshutz" fired a total of 300 rounds and wore out one tube. This tube was returned to the Krupp works at Essen and a liner added. This spare tube was then returned to the Russian theater where it joined its parent weapon. As the German Army withdrew from the Russian theater in 1943, both weapons were pulled back toward Germany to avoid capture.

"Dora" was brought into Poland and "Gustav Geshutz" into Czechoslovakia. As the Russians advanced into Poland and then into the northeastern part of Germany, both weapons were moved southward farther into Germany.

As the American Third Army advanced toward Dresden, "Dora" was destroyed near Chemnitz at a place called Ober Lichtenau. Later as the Third Army moved eastward toward Wieden, parts of "Geshutz" were destroyed along a railway spur 25 miles southeast of that city. So ran the German officer's story.

During the early part of June 1945, an Ordnance Intelligence team discovered the remains

ARMY ORDNANCE, November-December, 1946.

of "Dora" in the railroad yards at Leipzig but were unable to do more than photograph the wreckage from a distance as the Russians had already occupied the territory and had posted guards over the area in which the gun lay.

On April 22, 1945, while passing through a forest ten miles to the north of Auerbach, Bavaria, on the way to assist in the attack on Regensburg, I found the remains of "Gustav Geshutz" scattered along a railway spur. There were fourteen cars in this group, most of them of special construction.

Later, in June, when I moved my group headquarters back to Auerbach, I found all parts of this weapon scattered along some 50 miles of railway track. In checking the equipment I found two tubes, one of which was intact, a damaged cradle, trails, and bottom carriage section damaged, one trunnion bearing undamaged, the loading platform, one gas-electric generator, and a number of cars carrying spare parts.

In a further check a few miles down the track, I found on a siding the blown-up breechblock, the bronze tube sleeve, an intact trail, an intact trunnion bearing, and another gas-electric engine. Farther down the track, about 25 miles toward Wieden, I found a railroad tunnel in which the remainder of the weapon had been destroyed. It was apparent that the Germans had feared the capture of the weapon and had destroyed the parts as hurriedly as possible, for explosives still lay over various parts of the sections of the original 25-car train when I found it. Measurements made at the time and the estimated weights are shown in the table above.

The breechblock was a sliding device, the variable recoil machanism was hydropneumatic, and control of all mechansm was by electricity. The gun was transported by rail, the emplacement carriage being mounted on parallel railroad tracks. The time of emplacement was three weeks.

Traverse was accomplished by means of carriages mounted on twin curved railroad tracks, as follows: Two semi-circular parallel rail road tracks were built 20 yards apart so that a line, tangent to the curve at its center, pointed in the direction of fire.

Two additional railroad spurs were also built adjacent to the curved tracks for supporting two huge railroad cranes. These cranes were then moved into position, and the two crossbeams for supporting the trunnion bearings were emplaced across the trail sections and bolted into place. Trunnion bearing supports and superstructure were then placed on these crossbeams. The cradle was added and trunnion bearings secured.

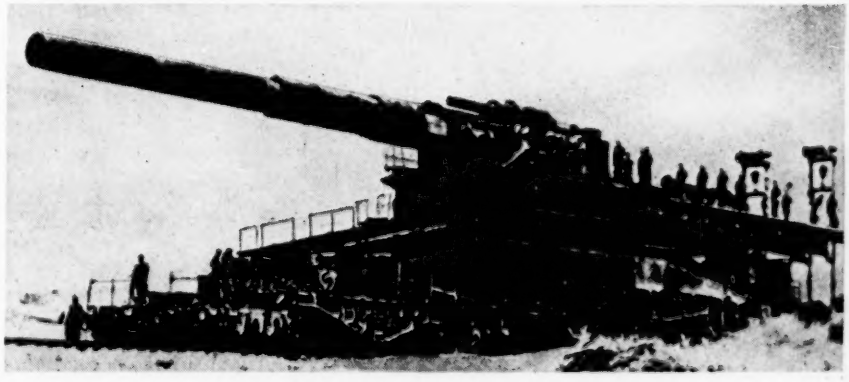
The bronze sleeve, providing the bearing surface for the tube during recoil, was then screwed to the cradle, utilizing an interrupted threaded section in the rear of the cradle.

The minimum elevation of the piece gave a range of 10,000 meters, using the minimum charge with a muzzle velocity of 500 meters a second. The maximum elevation was 48 degrees.

The measurements, estimates, and conjectures of performance will remain, for years, the brain teaser of ordnance. US MC

Estimated weights and measurements:	
Gun and Carriage	1,344 tons
Projectile	16,540 lbs
Diameter of bore	31.5 in
Diameter of powder chamber	36 in
Powder charge (3 increments)	2,500 lbs
Length of tube	35 yds
Muzzle velocity	2,500 f/s
Twist uniform to left 1½ turns for length of tube	35 cals
Range	51,000 yds

Captured German photo shows one of two giant Krupp guns that pounded Sevastapol and Stalingrad in 1942.



In Brief

Next month will see the finishing up of the district *Rifle and Pistol Matches* throughout the Marine Corps and prepares the way for the 1947 annual Marine Corps match to be held 26-31 May at Quantico, Virginia. The meet last year, the first since before the war, was also held at Quantico. Parris Island won the 1946 team match.

A *dynamometer and refrigeration building* is now under construction by United Aircraft to test experimental aircraft engines at 70 below zero temperatures which they will encounter in flight at altitudes up to 40,000 feet. Equipped with two 5,000-horsepower electrical dynamometers, the reinforced concrete and steel building will be 95 feet long and 84 feet wide.

The navy is making plans to conduct a program to test the possible effects of *repeated fast ascents* on operational flying. The idea for such a test was fostered when 20 attendants, who entered a pressure chamber several times a day to carry food to men undergoing special tests, were struck by attacks of aerobolism.

The adoption of a *5-in-1 ration*, containing enough food to feed five men for a day, has been undertaken by the Army. Containing from 3,566 to 4,056 calories, depending upon the menu, there will be one and a half million units of this ration procured for training and field operations in 1947.

The AFDL-47, a *floating drydock* and the largest vessel ever launched on an inland river, is in the Navy now. The huge vessel is 448 feet long, 97 feet wide, and 45 feet high. It has a lifting capacity of 6,000 tons. Crew quarters are designed to hold 130 enlisted men and seven officers.

The *first of three 90,000 kva generators* that were installed in the Dnieper Dam in South Ukraine, USSR, has been run successfully at full speed, marking the first time since 1941 that any power has been generated by the dam. The generators are driven by three 100,000-horsepower hydroelectric turbines, weigh two and a half million pounds, and have a frame diameter of 42 feet, five inches.

The British have introduced a *new training program* for their young men. Calling for 18 months compulsory service for all men reaching the age of 18, the new program will go into effect on 1 January 1949. Until then the present two years of service system will be tapered off. The permanent peacetime strength for Britain's armed forces has been set at one and a quarter million.

The *AD-1 "Skyraider,"* first of the Navy's new attack-type aircraft carries more destructive firepower than the guns of a light cruiser. The plane can mount either 12-inch "Tiny Tims," weighing 1,300 pounds and 12 feet long, or 5-inch rockets. The plane can accommodate a 6,000 pound load without having to change armament installations.

An effort is being made to *familiarize "boots"* at Parris Island, S. C., with Marine Corps aviation. The recruits are getting a day's schooling on the aircraft and its uses. Lectures, movies of Marine aviation in war and peace, and demonstrations of Link trainers, flight gear, parachutes, and survival equipment are all part of the course.

The *power of the tailless flying wing*, which made its appearance last summer, has been tripled by application of jet-propulsion. The XB-49 will have eight TG-180 jet engines, each producing 4,000 horsepower under favorable conditions. The big plane is reported to be in the 400 mph class.

The Marines in the Pacific War

From page 29

The crisis on the sea was in Adm Spruance's cabin on *Indianapolis*, rocking to the long Pacific swell a good distance away. After dark had fallen, officers from supporting naval forces began to come aboard for conference. The operation was a failure (they said); it was likely, nay certain, that under the present leadership there ashore Betio would not be taken for days, and all the airplanes in Japan would be down on the fleet through the Marshalls. Let us do this, let us do that, let us relieve one officer and put in another, row, row, row. Spruance heard them, his granite face impassive. When they had finished, he said:

"Gentlemen, there are a number of Marine officers on that beach in whom I have the utmost confidence. The operation will proceed as planned."

VI

THROUGH SOMEBODY'S FAILURE to pass along an order, the remaining battalion of the regiments ashore (1st Battalion, 8th) had remained in the boats most of the night, grouped around the minesweeper *Pursuit*, which was the control vessel. As soon as this was discovered they were ordered in but did not get away before 0530, at which time it was already breaking light. There was the usual trouble with the reef (the southeast wind held steady) and as the men began to wade and swim ashore they took a good many casualties from machine guns mounted in the wreck of an old freighter near the pier, to which the Japs had swum out during the night. Air support was called for and a file of fighter-bombers came over to drop all round the wreckage, only two of them hitting her, but that seemed enough. When the battalion reached the beach it was faced westward at the limit of the 2d Regiment's position. The 2d and 3d Battalions of the 8th similarly formed a line facing eastward.

His flanks thus secured, Col Shoup ordered the remainder of his command, the 1st and 2d Battalions, 2d, to work toward the south shore of the island, across the air strip.

He made slow progress at first and there were some pessimistic messages to Division Command, where Julian Smith was trying to work out the best method of employing the 6th Regiment. The 1st Battalion, he decided, should be put in at the western end of the island down toward its southern tip, where the outer main Jap battery position had been. There was a tangled maze of fortifications just beyond the end of the airfield there and the 3d Battalion, 2d, did not seem strong enough to deal with them. The 2d Battalion, 6th, was ordered to Bairiki, the island just east of Betio; toward dawn air observers had reported some of the Japs getting across the narrow water gap between the two and it was desirable to stop them. This battalion took some artillery with it for long-range directed fire against the eastern end of Betio. Meanwhile there were those discouraging reports from ashore. Gen Smith quietly ordered the organization of his headquarters and communications men as a final reinforcing battalion of the division and prepared to take them to the beach under his own leadership to fight through.

He did not have to carry matters so far. After a holdup at the airstrip, which the men quite understandably hesitated to cross since there was no cover and it was swept by a good deal of fire, the 2d Regiment began to filter through by twos and threes. Sometime after noon its advance elements reached the south shore and were taking Jap beach defenses from the rear, working them over methodically with TNT demolition charges and flame throwers. The valiant Lt Hawkins was mortally wounded in that operation after fighting in a manner which led to a posthumous Medal of Honor and designation of the airstrip as Hawkins Field.

At the western end of the island the Schoettel-Ryan battalion also made good progress by infiltrating, and a little after 1700 the 1st Battalion, 6th, under Maj William K. Jones was released for landing. They mostly went in in rubber boats, since mines had been detected off and at the shore. The wire of the beach obstacles was too much for the rubber boats and when they tried a gap in it they found the Japs had this gap exactly registered from a pillbox which was still an active volcano, so they had to work up to the northwest tip of the island and pass through the men already there. Even so one of the only two Higgins boats they used blew up on a mine and everyone in it was killed.

Their objective was a big blockhouse at the western end of the field, one of those that had given trouble to the 2d Regiment. They did not get it that night but their methodical cleanup program so much reduced the antiboat fire that on the evening of D plus 1 jeeps and self-propelled guns were coming in over the pier. The Japs got one of the 5.5s at the eastern end of the island back into action that night and began to

fire shells slowly; the destroyers had to put it back out of action again.

Next morning, 22 November, Gen Smith came ashore. On his arrival he found things in pretty good shape. Jones' battalion had cleaned out the big blockhouse and the pockets surrounding it except for mopping up; the 1st Battalion, 8th, was making steady progress westward toward a junction with the 3d Battalion, 2d, and the two destroyers in the lagoon were now giving steady effective support. The remainder of the 8th Regiment was working eastward to just beyond the end of the airstrip where there was a long tank trap, on its way laying siege to the big blockhouse that had given trouble all through the two days. The Colonel said he could take it (he did) but that his men were so beat up they would have to be relieved that night. It would be about the time this interview was going on that Tokyo reported all communication with Tarawa had ceased.

Gen Smith brought the 3d Battalion, 6th, in over the now secure western beach and planned a general concentration toward the eastward, with the 8th Regiment carrying the ball. His intention was to exchange the fought-out 8th Regiment with the 2d Battalion, 6th, over from Bairiki, making the shift that night. In this was another of these misfires in which Tarawa abounded. There were no boats available to move the men. When the landing teams had been boated originally the skippers of the transports had insisted upon a general unloading into the boats—all sorts of items, food, ammunition, trucks, gas and oil, into each craft as it came along. There had been no opportunity to unload most of these supplies and there they still were, jamming the boats floating around in the lagoon.

As it turned out, the 2d Battalion, 6th, was not really needed on Tarawa. That night, the night of D plus 2, the remaining Japs had been crowded closely enough into the eastern tongue of the island so they could get in touch with each other and they put on a counterattack—not a very good one in a technical sense, since it bore some resemblance to a *banzai* charge. The island was so flat that our people could see the Japs assembling under the moon. Fire was called for from the supporting artillery, from the guns on Bairiki, and from a destroyer. All three of the Jap attacks, which were made at four hour intervals through the night, were really broken up before they got underway, though they came on boldly enough and there was some hand-to-hand work in the battle positions. 475 dead Japs were counted there in the morning; and by 1330 of the next day the island was declared secure, all resistance over. This was not quite true, as there were isolated snipers there for days, but for practical purposes it stood up. Tarawa had cost us 985 marines killed, 2,183 wounded; something like 100 Navy killed and twice as many wounded. All the Japs but 17 wounded prisoners were dead; we also captured 129 of the labor troops, who were Koreans and willing to surrender.

VII

MAKIN HAD FALLEN to the 27th Division with comparative ease; there were only 848 Japs on the island. Apamama was almost a joke. The reconnaissance company of the V 'Phib Corps landed as planned from the submarine *Nautilus* but as it progressed met fire, so the men took position and asked *Nautilus*, which had big guns, for support. A passing destroyer joined in and the two of them made such good practice that when the advance was taken up again our people discovered that all the Japs not killed by shellfire had committed suicide.

From what has been already said it will be clear that the expected naval and aerial counterattacks did not develop. Spruance kept his fast carriers moving around rapidly, hitting Nauru with them on 19 November, while Radford's and Pownall's groups went in on Mille, Kwajalein, and Jaluit three days running, the 18th, 19th, and 20th. The Jap planes on Nauru tried to strike back, a torpedo attack at dusk, and lost eight of their number. Of course the 22d Air Flotilla did what it could in the way of bomb and torpedo attacks, chiefly at night and along the lines of those that had given fairly good results during the fighting in the Solomons. On 21 November they got in on Montgomery's group just taking planes aboard west of Tarawa and managed to hit *Independence* in the stern with a torpedo—not very serious damage but enough to take her out of the campaign. This operation also cost eight planes. Planes were sent down from the Empire as our people had expected—the 24th Air Flotilla, down to 40 bombers and 30 fighters. As usual with these emergency arrangements the group had neither completed its reequipment nor properly trained its new men after the hard experiences in the Solomons. They did not reach the Marshalls till 25 November and by that time it was too late. Most of the marines who had fought so hard for Tarawa were already reembarked, the transports were out of

the area and the airstrips both there and at Makin in operation, with patrols of land-based fighters and B-25s working out of the fields. Under these conditions neither the 24th Air Flotilla nor the remnants of the 22d could undertake any real operations. They settled down to a routine of daily scouting and nuisance raids at night by one or two planes.

The submarine divisions had a little better luck. Like the reinforcement air flotillas they were too late in reaching the area, not making it till 23 November, when the show ashore was practically over. But toward dawn of the next day, one of them, the big new *I-35*, managed to make an approach on the escort carrier *Liscombe Bay* and got a torpedo into her. Magazines and gas storage aboard the jeep carrier exploded, she became a mass of flames in a matter of minutes and 712 men lost their lives, including Adm Mullinix. *I-35* paid for it with her own life, however. Working south toward Tarawa from the area of her success, she was spotted by a plane which summoned the destroyer *Murray* to the scene. *I-35* dodged and held out until late in the afternoon when two other destroyers, *Meade* and *Frazier*, caught up with her and she disappeared forever from contact and surface.

None of the other submarines accomplished anything and one of them, *I-19*, got herself sunk by the destroyer *Radford* three days later when she tried to get nosey about what was going on near Makin Island. Adm Kondo did bring four of his battleships with a couple of divisions of destroyers forward to Eniwetok but he failed to reach the place before 3 December. He had no carriers at all, was very short on cruisers, and when he found his air cover would consist only of the battered 22d Flotilla and the ragged 24th, considered it too dangerous to push on toward the Gilberts. He would get nothing there anyway but a naval battle, since the radios were proclaiming that both Tarawa and Makin had fallen.

The whole Yogaki Plan was thus a complete washout in a strategic sense, and it deserved to be, for essentially it was a plan that demanded much more time than the slam-bang attack of the marines allowed. Ten days would not have been too much for the execution of Kondo's scheme, even had his cruisers and air arm been intact; a week was absolutely essential. It is possible that if the original landing had been made on Bairiki a week would have been taken, but under the circumstances there was no chance whatever for a counter-stroke.

On the operation as a whole, our side probably learned more; certainly more that was of immediate value. The Japanese were much better dug in than expected and their positions were much less vulnerable both to bombs and gunfire, but the key point here was quite clearly not so much the strength of the positions or the fact that the original estimate erred in small degree as to the number and caliber of the defending guns. The crucial question was the lack of coordination between our infantry attack and its preliminary and supporting fires; the fact that less than half the promised tonnage of bombs had been put into the island (the Navy exceeded its promised shell tonnage by a little) and that even delivery of this reduced amount of bombs was badly coordinated. There would have to be a good deal of tightening up in this respect for the future and the matter was immediately a subject of intensive study. At the same time it was obvious that these coconut and coral prepared positions could be taken only by infantrymen crawling on their bellies. There was no easy way.

THERE WERE OTHER LESSONS as well, one of the most common being the value of good communications. D day at Tarawa would not have been half so bad but for the failure of those miserable TBY radios, a Navy model of the walkie-talkie which was too complex in any case and then not waterproofed. When good communications were available on the night of the 22d the destroyers in the lagoon laid their fire only 50 yards ahead of the lines with the utmost success.

Finally there had been a good deal of trouble about boating, attended by often frantic efforts on the part of control officers to discover which of the loaded Higgins craft out in the lagoon held a case of mortar ammunition or blood plasma that happened to be urgently needed at the moment. After Tarawa a certain number of landing craft were regularly detailed as floating supply dumps to be held offshore, with the contents of each clearly indicated so things could be found when needed.

Tarawa produced another effect also, an effect on the country at large. There had been battles and heavy casualties in this war before, but they trailed out over long periods of time and space. Here on an insignificant lump of coral over 3,000 men, nearly a quarter of a division, had been hit in the space of 72 hours. The reaction was one of shock and horror; and for many, it was the first realization of what war against a nation of fanatics really meant.

to be continued

New Developments

Recruiting Program . . .

RECOGNIZING the fact that over half of the enlisted men in the Marine Corps today have less than two years to serve on current enlistments, Headquarters, Marine Corps has begun a program to carry the Corps over the hump of reorganization which will strike within the next year.

In an effort to retain as many of these men as possible in the Corps for a longer period of time, the Marine Corps has offered several opportunities to men with less than two years to serve who will extend their enlistments so that they will have at least 28 months to serve.

First of these offers, which was released in the early part of January, was the choice of foreign stations for men extending their enlistments, plus a promise of all leave due them, up to 60 days, before leaving the States.

The second plan to be announced offered the men a choice of the schools at the different Marine bases which they could attend by extending their enlistments. A list of schools coming under this program was released along with the proposed program. Several Army courses conducted on U. S. Army reservations were included.

Although the Corps is attempting to induce men to reenlist or to extend their enlistments, discharge requirements are being liberalized in certain cases. Almar number 8 (1947) authorizes the discharge of certain men upon their *own written request.* Eligible for discharge under this authority are those who enlisted prior to 1 February 1945, regardless of the date of expiration of their enlistments; those men who enlisted between 1 February 1945 and 31 August 1945, both sides inclusive, who participated in a campaign of World War II which is recognized by the awarding of a star on the theatre ribbon. This latter group is eligible for discharge, also, regardless of the date of expiration of enlistment. No application for discharge under this authority shall be accepted after 30 April 1947.

At the present the Marine Corps is below its original goal of 100,000 enlisted men and the possibilities of the total enlisted strength being dropped to 90,000 by 30 June 1947 may well be anticipated. At the end of 1946 there were approximately 93,000 enlisted men on active duty.

During 1946, peacetime recruiting figures reached an all time high, as 69,818 men were recruited into the Corps. September 1946 was the high month of the year with 10,517 men signing up. However since September there has been a decided decrease in enlistment figures as only 6,820 men were sworn into the Corps in the last three months of 1946. December hit a new postwar low with only 1,710 enlistments.

Platoon Leader's Class . . .

FRESHMEN, SOPHOMORES, AND JUNIORS in selected colleges and universities now have the opportunity to become officers in the Marine Corps Reserve or the regular Marine Corps. Students selected for the program are enlisted in a platoon leaders' class of the USMCR, being subject to call to active duty only on the occasion of national emergency. A candidate may, however, be put on active duty at his own request.

Military training will not be conducted during the academic year but will consist of two periods of six weeks each of summer training, the first a junior course dealing with fundamentals, the second an advanced course. Freshmen and sophomores must attend two summer training periods prior to graduation, juniors only the advanced training period. For the first training period, student platoon leaders will be corporals, USMCR, receiving $90 a month. They will rank as sergeants during the second training period with a pay of $100 a month. Clothing, transportation to and from the training site, quarters, subsistence, and medical attention will be furnished by the government. Classes will be held at Quantico, Virginia.

After completing successfully the period of summer training and graduating from college with a baccalaureate degree, platoon leaders will be eligible for commissions as second lieutenants in the USMCR. A limited number of men will become second lieutenants in the regular Marine Corps, depending upon the qualifications and

desires of the individuals concerned and the vacancies existing for such appointments.

Candidates must be male citizens of the United States not eligible for voluntary induction under any existing selective service laws. They also must not be members of any military organization including Army or Navy ROTC, except the Naval militia. Candidates must be unmarried and agree to maintain that status until completion of the summer training periods. Applicants must be at least 17 at the time of their enlistment and may not be more than 25 on 1 July of the calendar year in which they become eligible for commissioning.

Although no previous service is required of freshmen and sophomores, juniors must be honorably discharged veterans of the Army, Navy, Marine Corps, or Coast Guard, with at least 12 months active service prior to V-J Day.

Physical and moral requirements parallel present qualifications for regular Marine Corps officers.

4.5″ Rocket Battery . . .

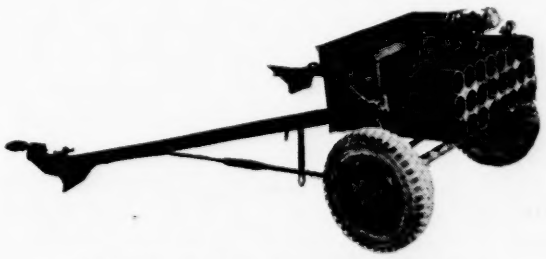
A POTENT ADDITION to the fire power of Marine Corps artillery is the 4.5″ Rocket Battery, Artillery Regiment, now being integrated with the artillery of each Marine division under T/O H-28-(P).

War tables under preparation envisage the addition of two rocket platoons to these batteries and redesignation as the 4.5″ Rocket Battery, Fleet Marine Force. As indicated by the name, these batteries will be FMF troops, pooled under force control for allocation to corps or to divisions undertaking separate operations. One battery of 18 rocket launchers (T66E2) is capable of delivering 432 rounds in one volley (nine tons), the equivalent of a TOT of 36 battalions of field artillery. If fired over a period of four minutes, the 18-launcher battery delivers 1296 rounds (27 tons), the equivalent of nine battalions of light artillery firing at maximum rate over the same period of time.

The 4.5″ rockets are designed to supplement the fires of other weapons, particularly those of light artillery and heavy mortars, but are not employed normally in close-support fires due to the large dispersion pattern. At the present stage of development, the 4.5″ multiple rocket launcher is an area weapon, best employed in mass under centralized control, hence it is recommended that the battery be considered the lowest tactical unit under normal circumstances. Fire control personnel in the battery headquarters is adequate for battery employment, but difficulties will be encountered if rocket platoons are detached from the battery for platoon operations.

Besides its high rate of fire (24 rounds per launcher in 12 seconds), the T66E2 multiple rocket launcher possesses several other advantageous characteristics. It weighs only 1,270 pounds, has a low silhouette, and is highly mobile.

Although the maximum range of the 4.5″ rocket is 5,200 yards, the maneuverability of the launcher ensures considerable flexibility in the delivery of fire by making possible the use of several successive positions so located as to allow the fire to be placed on critical areas that are separated beyond the traversing capabilities from any one position. A disadvantage in the employment of rockets is the fact that the distinctive flash and heavy blast action of the motor at launching tends to disclose the launcher position to enemy observers. Experiments in emplacing the launcher in dug-in emplacements indicate that a small, partially covered emplacement, no larger than that required for the 105mm howitzer, does not affect the firing of the weapon. Such emplacements provide considerable protection against enemy countermeasures. In addition, the large danger area in rear of the launcher (caused by the flame and blast of the propellant in launching) is very much reduced, permitting emplacement and firing of launchers in such restricted areas as are normally found in the early stages of an amphibious attack.



Multiple Rocket Launcher, T66E2

TO THE EDITOR

Message Center

Antitank Protection . . .

DEAR SIR:

During World War II, due to the nature of the enemy, we of the Marine Corps had a tendency to become lulled into false sense of security concerning enemy mechanized attack. We didn't think in terms of enemy armored attacks simply because we didn't have to worry a great deal about them as did troops in other theaters. The war is over now; yet, we still think in terms of our former enemy.

The fact remains that in this period of military economy, we cannot afford to rush about buying up every bit of new equipment that comes along which promises to become the answer to our antitank problems. However, we must face the fact that present regimental weapons company equipment, such as the obsolete 37mm antitank guns, are so much extra ineffectual baggage in our present organization in regard to their primary mission of providing our units with antitank protection. They may have been effective against most tinny Japanese tanks which were obsolete compared with the tanks of other modern powers, but in this day of 100-ton tanks, mounting 90 to 122mm guns and howitzers, we might as well be armed with rocks. The limited traverse of our M-7 self-propelled howitzer leaves much to be desired also as a tank killer.

Another example of our antitank unconsciousness is the fact that in our rifle companies, we have three bazookas, yet the T/O takes no cognizance of this fact. It is up to the initiative of the company commander to pick bazooka men from the other duty privates or hand the weapon to his barber, carpenter, cook, or some other such miscellaneous headquarters personnel.

I might also add that neither do we have a division antitank officer to evaluate, advise, and coordinate our antitank plan for the division as a whole. Looking to the future, I think we could well have such an officer on our division staff. He would be able to coordinate the efforts of our own tanks, regimental weapons companies, artillery, and engineers, all of whom would have a part in protecting our infantry from enemy armor. This arrangement seems to have worked well, especially with the British.

It might be interesting to note that the Russians, who probably have had more experience in fighting successful defensive actions against a combination of all arms than any other nation, define in their field regulations that defense is primarily an antitank defense. Their prime means of repelling tank attacks seems to be artillery of all types, towed and self-propelled. Crews of all artillery pieces are trained in direct fire methods. However, towed antitank guns, and antitank rifles with their forward units play no small part in this overall defense. The future trend in these units seems to be that the substitution of towed 57mm and 76mm guns for their 47mm antitank guns is in order and that some type of light recoilless or rocket type weapon will replace their 14.5mm antitank rifles. It is also expected that light self-propelled guns will play an increasingly dominant role in the future.

The United States Army, in its latest infantry, armored, and artillery conferences decided that the tank itself was the better antitank weapon as compared with their old tank destroyer units. Thus they set about increasing the number of tanks in their infantry divisions, eliminating their regimental antitank weapons companies, and substituting regimental tank companies.

The recoilless 57mm and 75mm rifles that can be fired from light machine gun mounts and operated by a two-man crew are steps in the right direction as far as providing the infantry units with organic protection, since maneuverability and concealment are two prime requisites in fighting tanks. Strange as it may sound to some, our effectiveness as an offensive amphibious organization depends on our ability to defend. We have to be able to defend our beachhead against counterattack and build up our forces for a concentrated decisive blow against the enemy. Thus we could well give thought to all such antitank defense measures in our future planning and training.

DEAN N. MCDOWELL,
Captain, USMC

Political Science . . .

SIR:

In view of the increasing number of military and naval men who are being appointed to important civilian and governmental posts, might it not be

worthwhile for the U. S. Marine Corps to consider:

Adding to the curriculum of the marines, after boot camp, the fundamentals of American history and government? The neglect given American history throughout all our schools, elementary and up, is all but scandalous. It remained for a friendly, sympathetic British ambassador, Bryce, to write the best text on our government. That was about thirty years ago, and no one since has seen fit to recognize our government as worthy of description in the Bryce manner.

Of all people, the marines should be best informed on our country's history and its operation. They help to make history, and some qualified observations on the significance of what marines do should be part of their equipment. Facts, not propaganda. Marines do the "honors" in dress up occasions on land and sea . . . they also do the tough jobs, when necessary, such as making landings on unfriendly beaches between big wars as well as during major engagements. After taking and securing the objectives, it is often necessary to govern these areas. No complaint is known of the marines not governing in a competent way, but their success is due to their discipline and spirit rather than due to technical knowledge. And technical knowledge of the job is necessary for long time tenure . . . and for the duties of citizenship.

It is in the latter department, preparation for citizenship, that the Marine Corps can do its best job with its members. A more general familiarity of government, if given to the relatively small number of marines, would have a beneficial effect on the country at large . . . particularly after they leave the service. It seems appropriate that men who have spent an enlistment, or two, in the Marines should look to additional public service when they become civilians. An enlistment in the USMC gives a man, for a while, the rare feeling of working together with others for the common good. The competitive feature of commercial life is absent. All of the men are more or less equal in the great bond of comradeship. They acquire a nice sense of duty, authority, obedience and that all too rare Marine Corps "spirit," a combination that is so much needed in our every day life.

Why not give the "best educated" corps of men additional, practical training in government that will make them still more useful in service and in after civilian life?

FRANK H. RAMSEY,
Sergeant, USMCR

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